cycles

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CYCLES MARCH 1958 VOLUME IX NUMBER 3

THE OFFICIAL BULLETIN OF THE FOUNDATION FOR THE STUDY OF CYCLES

THE DIRECTOR'S LETTER

Dear Member:

Come May, I will be 63 years old. I would like to unload some of my responsibilities onto a younger man. I would like to devote myself more largely to research. The younger man could rewrite the more scientific output of myself and others into the popular style required for *Cycles*, and could handle some of the administrative details.

It would be only a part time job, but it would be lots of fun, Also, if things continue to go as they are going at present, there would be some money in it too. It could be done without change of residence.

If you are interested, let's start by letting you rewrite for publication in *Cycles*, over your own name, some of the 2,000 items in our cycle library. You could then rewrite some of the material in the *Journal of Cycle Research* . Presently you could be writing or editing the entire magazine, except perhaps for the Director's Letter. Finally you could take on the management of the entire Foundation. Then I might have time really to learn something about cycles! How about it? May I hear from you?

Thoughts About the Future

The body of our monthly report is concerned with *fact*. It tells you about a certain form of behavior - i.e. rhythmic fluctuation - that is widely present in our Universe. A knowledge of this behavior is of use in understanding how the Universe behaves and in getting light about the probabilities of the future.

The Director's Letter on the other hand is a place where, on occassion, I can appropriately roam into *opinion*. It is less formal than the body of the report. Perhaps that is why people usually like it better.

Thoughts About the Future Are Opinion

This month I think I'll share with you some of my thoughts about the future. Any thoughts about the future are opinions, for no one really *knows* anything about the future.

It is appropriate that I discuss these thoughts with you because the subject of cycles is so intimately tied up with the future. Throwing light on the probabilities of the future is the chief reason why most people want to know about cycles.

Three Fundamental Ideas

Fundamentally there are three ideas about the future:

Future Fixed

One idea is that the future is absolutely fixed and predetermined; that your reading these words at this instant was in the cards when Hector was a pup--nay, before the world began; that the future is as fixed and unalterable as the past. This does not mean that you and I don't have *choice*, but that how we are going to exercise that choice is predetermined.

Future Semi-Fixed

Another idea is that the future is fixed within limits; that the law of averages holds things *in total* within bounds, but that individual events can vary unpredictably. Under this theory we can know the *probabilities* of the future, just as the National Safety Council predicts Labor Day highway deaths; but not just who will die.

Future Free

A third idea is that the future is absolutely flexible and that the universe, at least as far as we human beings are concerned, unfolds this way or that, depending upon our desires and/or our actions.

People's Ideas

My guess would be that 90 people out of a hundred have the third idea, namely that the future depends upon the actions of individual human beings, and can therefore, unpredictably, go this way or that. It is very difficult for people holding this idea to appreciate the usefulness of a knowledge of cycles. 'Yes,' they say, 'maybe it has been so in the past, but this time it will be different.'

Perhaps ten people out of a hundred are trained to think in generalities instead of the particular. It is easier for these people to deal with statistical probabilities, and to use a knowledge of cycles.

I doubt if one person out of 10,000 believes that *everything* is rigidly predetermined.

My Ideas

I happen to be one of those who believes that the future is as rigidly fixed as the past. I believe that it is *completely* knowable—but not, of course, by human beings. I believe for example that it would be possible for God, the Creator and preserver of the Universe, to give you, if He chose, a copy of next year's newspaper.

I believe that *everything* is governed by law. In fact, the phrase 'fulfillment of the law' is as close as I can come to expressing my concept of the function of the Universe. And finally, I might add, holding these views, the Universe, as I shall try to show you, is to me ten thousand times as magnificant a creation as it would be if I held more conventional ideas.

The Wright Whirlwind Engine

The other day I chanced to see a Wright whirlwind airplane engine. It had what seemed to be dozens of cylinders and thousands of moving parts. The motion of each part was separate and seemingly unrelated. Some parts were going up while other parts were going down, still other parts were going sideways. Yet they were all related. How long do you suppose the engine would continue to run if the motion of each part, were not, to the thousandth of an inch and the fraction of a second, all part of a master plan? Not very long. And what holds true in a little puny way for a Wright holds true, I believe, in appalling grandeur for the Universe as a whole.

Of course all this is merely one man's opinion, but let me explore the matter a little and see where it leads us.

The New York Times, A Year Ahead

Just for argument's sake agree with me that God could, a year ago, Feb. 14, 1957, have provided you with a copy of the New York Times of Feb. 14, 1958 - a year ahead. The paper of Feb. 14, 1958 tells of the death, in an auto accident, of a Mr. George F. Simms. Mr. Simms' right front tire blew as he was about to pass a bridge abutment, the car swerved, crashed; Mr. Simms was killed. If the tire had given way 100 feet earlier or 100 feet later Mr. Simms would not have been killed; the notice of his death would not have been in the paper.

What caused the tire to fail at just that instant? You did! On September 9 last you were crossing the street and you saw a small stone. You kicked it. It richocheted from the curb and fell back into the roadway. Mr. Simms car happened to come along just then. His right front tire hit the stone. This minor bruise, added to all the other bruises, weakened the tire in such a way that finally it blew *just* when it did - not a mile later - not 100 feet later - but *just at the bridge!*

Therefore, if you had kicked just the tiniest bit harder (or less hard) the stone would have been in a different place; the tire would not have hit it; the tire would not have failed when it did; Simms would not have been killed; the notice of his death would not be in the paper.

However, Simms *did* die. The notice of his death *was* in the paper. It follows inescapeably that you *had* to kick that stone *just* that amount or he wouldn't have died and the notice of his death would *not* have been in the paper.

What I'm getting at is, if the contents of todays paper, or even one little item in it, was knowable a year ago, then *every* intervening act of everybody concerned was *fixed*. If there were *any* latitude for even so trivial a thing as kicking a stone, the paper would be different - and therefore unknowable in advance, even by God.

Free Will

Now, as I've said above, this fact in no way nullifies free will. We are as free as the wind to do anything we please. And what we do will determine what will follow after. My ideas are in no sense fatalism, the notion that no matter what we do things will come out the same anyway. Nothing could be more ridiculous. We are free, for example to drive home at 40 miles an hour or at 50 miles an hour as we choose. If we go at 40 miles an hour all will be well. If we go at 50 miles an hour there will be an accident and we will be killed. The idea that when your number is up you will 'get it,' and therefore that it doesn't make any difference what you do, is fatalism and is nonsense. My point is that, because you are a sensible fellow you will *choose* to go 40 miles an hour.

To one who knew that you were a sensible fellow your choice would be predictable. To one who knew *enough*, its consequences would be predictable too.

A Magnificent Concept

Now pause with me to consider the implication of the idea that everything is fixed. You know that a chunk of matter such as a sheet of paper is made up of billions and billions of atoms, each a miniature 'solar system' with a nucleus, more or less corresponding to our sun, and electrons whirling around it, more or less corresponding to the planets. We know that at some particular time—say 12:00 o'clock tonight—the position of the planets is *exactly* predeterminable. If *everything* is predetermined, it follows that, as of midnight, the position of each electron in each atom is also fixed and predeterminable, although of course not by human beings. If things are fixed, at midnight tonight the 3rd electron of the atom which is 17,392,467,688 atoms in from the right hand edge of this sheet of paper will be 3/7ths of the way around, the 4th atom will be 2/5ths of the way around and the 1st atom of the 17,392,467,689th atom will be half way around—all interlocking, all intermeshed, all synchronized with each other and every other electron, every other wave of force, every other planet, every other thing in the Universe, even you and me!

To me this is a magnificent concept. It provides a suitable background for the study of cycles, which, after all, is but one little aspect of this awe inspiring grandeur. However it is merely one man's opinion. If you don't agree with it, it is your privilege to believe something else!

The Place of Cycles in the Universe

In the foregoing section I have tried to show you that cycles are necessarily tied in to our concepts of the future. They are tied in to our concepts of the Universe, too.

Did you ever stop to think of the raw materials you would have to make first if you were starting to make the Universe from *nothing*?

First of all you would have to create **space**, for if there were *nothing* there wouldn't be even space. The creation of space would involve the creation of **dimension**.

Next you would have to create **pattern**.

Next you might create **time**, for with *nothing* to start with there wouldn't be any time until it was created. (I'm mindful that in speaking of 'first' and 'next' and 'until' my words presupposed time, but it was merely a manner of speaking.)

Time and pattern together would give you **cycles**.

Next you would need **law**.

Then you would need **matter** and **energy**, which, although convertable, are really separate things from a practical point of view.

Next you would need **motion**.

Then **gravity**, **attraction** and **repulsion**, **magnetism**, and **electricity**.

You would still lack life, and its corollaries: **emotion** (e.g. love,) **sensation** (e.g. color) and **purpose**, **memory**, **creativeness**, and **self consciousness**. These would have to be created.

(I'm sure I must have missed several building blocks. If you can think what they are, write in to tell me.)

Now you would have all your raw materials. How simple it would then be to set them all going, with their various inter-relationships! (Try it some rainy Sunday afternoon!)

Foundation Chapters

The time is now ripe for the formation of Chapters in each of the 12 cities in which we have 50 or more members. (I am told that it takes 50 members for an organization to have vitality and to survive. With less than 50 members you cannot count on an attendance of as many as 25 persons at any one meeting. Without an attendance of at least 25, you can't attract good speakers. Without good speakers the members won't come to the meetings!)

The cities where we now have 50 or more members are: in addition to New York

Chicago (362)
Los Angeles (197)
Detroit (104)
San Francisco (101)
Washington D.C. (97)
Cleveland (91)
Philadelphia (91)
Boston (77)
St. Louis (71)
Pittsburgh (61)
Cincinnatti (50)

If you live in one of these cities won't you follow the example of Jack Dorland in New York and organize a chapter in your area? I'll give you all the help I can. For an account of the activities of the New York Chapter, see page 108.

What's Ahead

I plan to continue the *What's Ahead* articles and then to keep up to date, in the *Cycle Round-Up*, the various phenomena reported upon.

A number of *What's Ahead* articles are in the making. One will deal with shorter cycles in bond prices. Another will tell you about an important cycle in wholesale prices. Others will report to you in regard to cycles in industrial production, and in soybeans, cotton, grey goods, and sugar prices. Also, if we find them to be of practical usefulness, we will report to you upon cycles in rye, cocoa, and coffee prices, in employment, in car loadings, and in bank debits. Other articles will expand the work already done in regard to cycles in wheat, corn, copper and pig iron prices, in war, and of course in regard to stock prices.

The *Cycle Round-Up* department will have to be expanded. On the other hand, certain subjects do not rate inclusion every month, or do not rate a full page presentation. I shall try to strike a balance.

Other Subjects

These economic subjects are of course the ones of greatest interest, but natural science subjects are much more important. I shall try not to neglect them, although I imagine that most of the reports in regard to our work in that direction will have to be published in the *Journal of Cycle Research.*

Growth Trends of our various industries are of fundamental importance and will be continued, but they are a little on the egg-head side and will be held down to due proportion.

The *Beginners Corner* is also of limited interest, but will be inserted from time to time for these unusual people who wish to do their own work!

Foundation Affairs

I might mention in closing that during 1957 we had an average of 6,707 members and that we went ahead financially, too. In fact, if things continue as they are going, I am going to be able to draw salary in 1958. (The last I drew was $1,800 for 1955.) I'll make a full report to you as soon as the accounts are audited and we have the space available.

Cordially yours,

Ned Dewey

Edward R. Dewey
Director

WHAT'S AHEAD FOR ALUMINUM PRODUCTION?*

Primary aluminum production in the United States from 1886 to date has evidenced a 6.4-year rhythmic cycle. If this cycle continues it will, ideally, exert a downward pressure against growth until 1959.5, the next time of ideal low.

Growth Prodigious

Aluminum production began in this country in 1885 with the production of less than 500 pounds of metal. By 1886, 1½ tons were produced. Growth was at a prodigious rate for many years thereafter—nearly a thousand fold in the first eleven years, for example. By about 1910, however, growth had more or less stabilized something near to the rate prevailing today. The growth of actual production by years from 1886 through 1957 is charted in Curve A of Fig. 1. below. In only 14 of the 72 years has there been an actual decline of production. The 6.4-year cycle is obscured by the growth factor. To see the cycle more clearly we compute trend (Curve B) and express production figures as percentaged above and below it. See Curve C. (Trend is a 9-year geometric moving average.) An ideal 6.4-year cycle has been added (Curve D).

The 6.4-Year Cycle

Of the eleven 6.4-year waves, ten have been quite pronounced. The one due to crest in 1949 was, however, for all practical purposes, missing.

The 6.4-year cycle crests ideally at 1956.3 and at 6.4-year intervals forward and backward from that date. Its strength is typically 26% above its trend at time of crest, 21% below its trend at time of trough.

Rate of Growth is What Counts

As the rate of growth of this industry has been so tremendous, the downward legs of the 6.4-year cycle have always been minimized; often completely wiped out. Even for the 47 years since 1910, there have been only 13 years showing decline. It is therefore always risky to predict an actual decline in aluminum production. It is much more realistic to predict a decline in the *rate* of *growth*.

If you compute the percentages by which the production for each year is above or below the production of the preceding year you will find that these figures also have a 6.4-year cycle, but one which normally turns ahead of the cycle in production. These figures are known as percent change figures.

Using values 1907 through 1957, if we split these percent change figures into sections that average 6.4-years long and average the sections we find that the various years of the cycle have the following average values:

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*A POSTSCRIPT TO CHAPTER 12 OF *Cycles—The Science of Prediction,* BY E. R. DEWEY AND E. F. DAKIN.

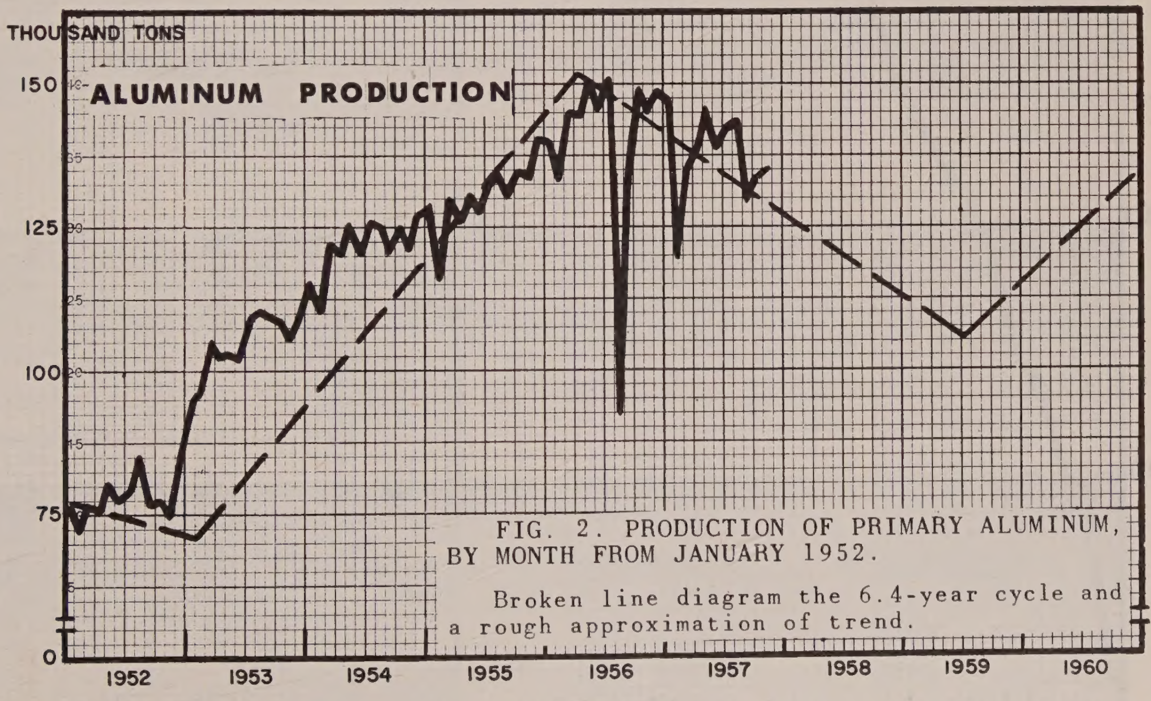
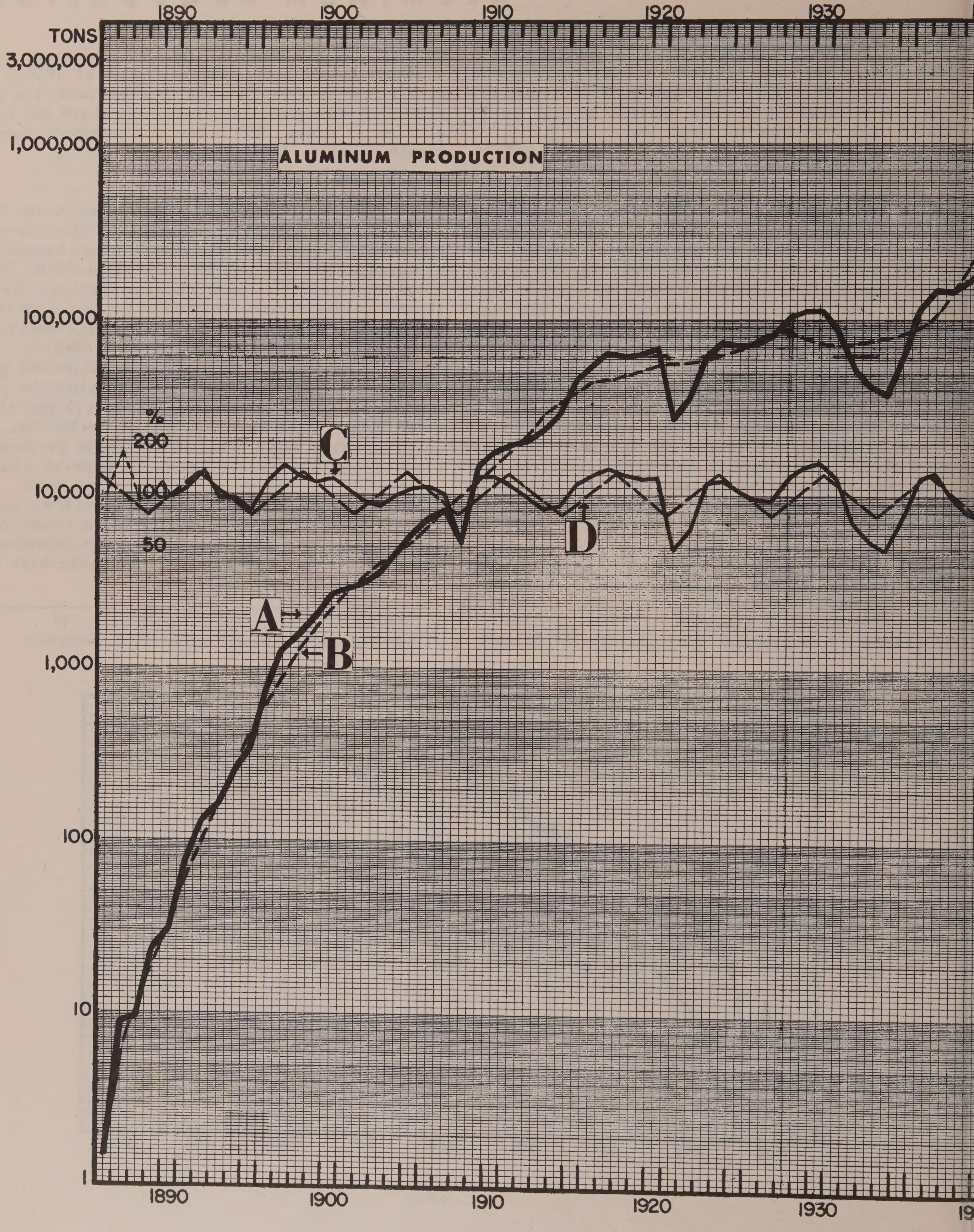
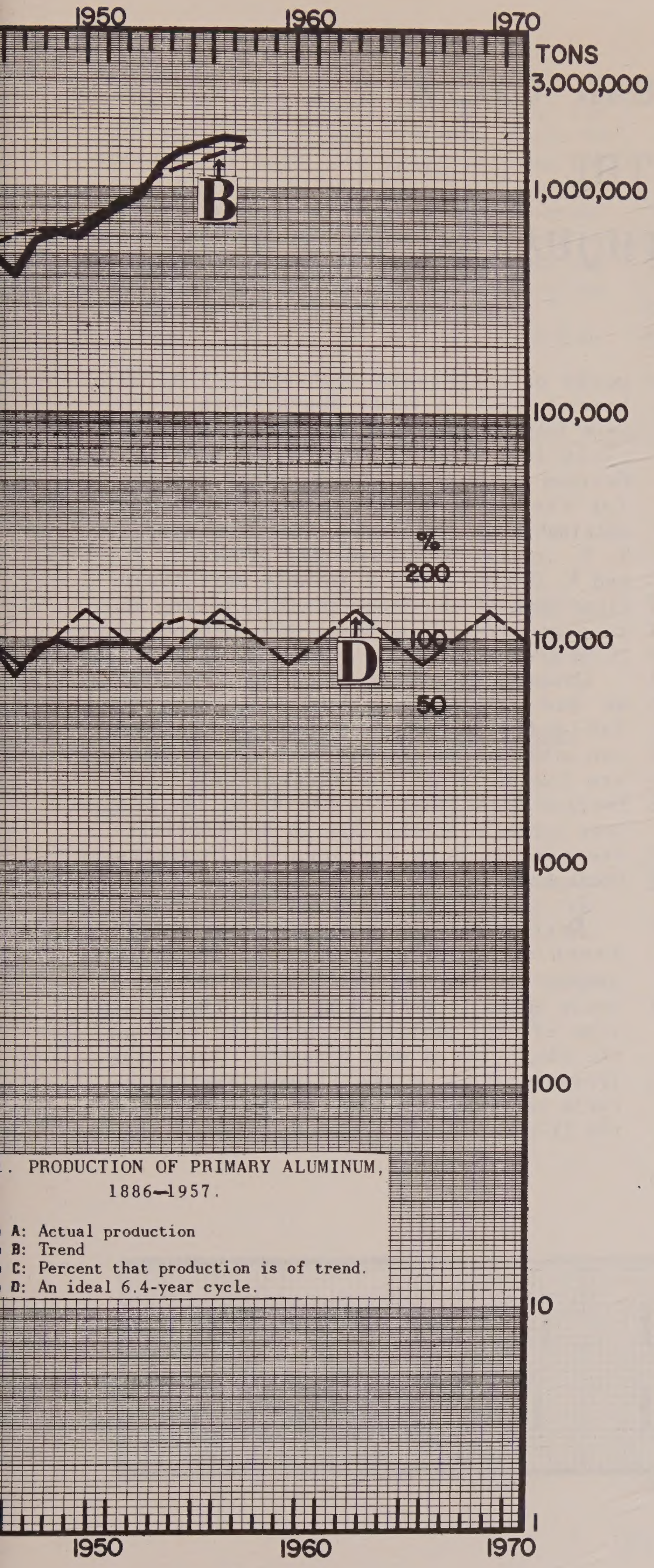


FIG. 2. PRODUCTION OF PRIMARY ALUMINUM, BY MONTH FROM JANUARY 1952.

Broken line diagram the 6.4-year cycle and a rough approximation of trend.


ALUMINUM PRODUCTION
TONS
3,000,000
1,000,000
100,000
10,000
1,000
100
10
1
%
200
100
50
A
B
C
D
1890
1900
1910
1920
1930
19



.. PRODUCTION OF PRIMARY ALUMINUM, 1886—1957.

A: Actual production
B: Trend
C: Percent that production is of trend.
D: An ideal 6.4-year cycle.

1957, 6% below the year before
1958, 5% above the year before
1959, 8% above the year before
1960, 36% above the year before
1961, 29% above the year before
1962, 13% above the year before.

To put it into words: Based on typical behavior in the past, 1957 was a year which, on the average, was 'due' to be 6% below 1956. (Actually it was 2% below 1956.) The odds are about 2 to 1 that 1958 will be above 1957 *and* that 1959 will be above 1958, but in the past the average gains for such position in the cycle have been only 5 and 8 percent respectively. The year 1960, however, falls in the part of the 6.4-year cycle which, in the past, has always shown important gains when compared with the year before. On the average these gains have amounted to 36%.

Summary

It should be clear from the above statements that a 6.4-year cycle has been present in aluminum production from the beginning of the industry. This cycle is now in its downward phase. In the past the downward phase of the cycle has pretty largely offset the underlying growth trend—in fact, in some instances it has been associated with an actual decline. If these patterns continue, 1958 will show only modest growth, if any, in comparison with 1957.

Fig. 2 charts actual monthly production January 1952 through October 1957, together with a diagram of the 6.4-year cycle combined with an estimate of trend. Fig. 2 will be kept up to date and will be reprinted from time to time in the Cycle Round-Up department.

Edward R. Dewey

THE 11—YEAR CYCLE IN THE ABUNDANCE OF EARTHQUAKES, 1305—1898

There is an important 11-year cycle in the abundance of earthquakes according to Dr. Charles Davison of England. Lots of earthquakes tend to come every 11 years or so. Davison reported his findings in 1929,[1] 1933,[2] and 1932.[3]

Grades of Earthquake Intensity

Earthquakes are graded on a scale of intensity from 1 to 10. The worst earthquakes are graded 1. From the standpoint of the earthquake fellows this means a jolly one—one to bring joy to the heart! Grade 2 and grade 3 earthquakes are also satisfactory, though of course nowhere nearly as good as grade 1. Grades 1, 2, and 3 are all rated as "destructive" quakes. ("What fun—more people killed"). I raise the point about grades because there is a slight difference in the way earthquakes of different grades behave.

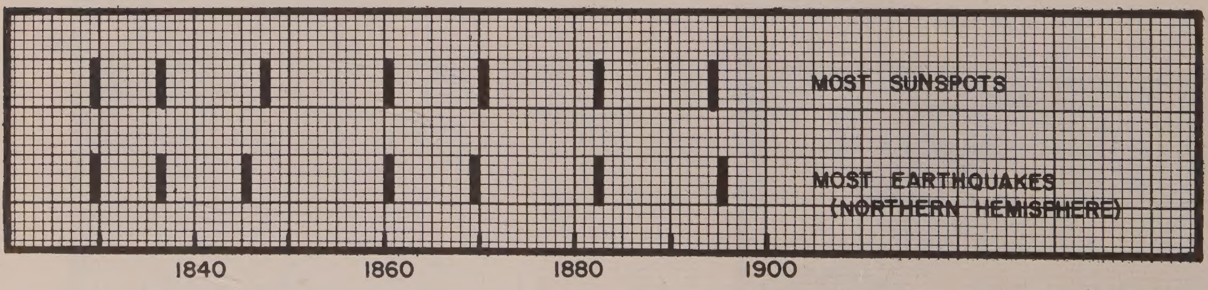
Exact Lengths of the Earthquake Cycle and the Dates of Peaks of Earthquake Intensity

For the 11-year cycle, Davison studied earthquakes in the Northern Hemisphere from 1305 to 1889. He used Milne's catalog.[4] In the figures studied the first peak of abundance for earthquakes of intensities 1, 2, and 3 came in 1314, the last in 1895. During this 581-year period there were 53 peaks of earthquake abundance—i.e. 53 times, about 11 years apart, when there were lots of quakes. This gives an average cycle length of 10.96 years. However, Davison feels that more accurate results for the early centuries are probably obtainable by considering quakes of grades 3, 2, instead of considering grades 3, 2, and 1. Grades 3 and 2 jointly have their first peak of abundance in 1315, giving an average cycle length for the period of 10.94 years.

Dates in each century of one time when we had the most quakes are given in Table 1. For each century there are ten other dates not given. These figures are for north of the equator only, but Davison finds that the timing of the 11-year cycle in earthquakes is substantially the same in both Northern and Southern Hemispheres.

Earthquakes and Sunspots

Davison finds a close association between earthquakes and sunspots. One, quakes and sunspots both fluctuate in a cycle about 11 years long. Two, the ideal time of most quakes is about the same as the ideal time of most sunspots. Three, the *irregularities* of the 11-year earthquake cycle are similar to the *irregularities* of the 11-year sunspot cycle. You can see this



from Table 2.

Note that the first cycle is *short* for both spots and quakes, the next cycle is *average* for both, the third is *long* for both, and so on (see Fig. 1). Clearly, there is some association between earthquakes and sunspots. What is it? When we discover it, will it throw light on the way cycles operate and the cause of cycles in other things? No one yet knows.

E.R.D.

References

1. Davison, C., *Phil. Mag.* (London) Vol. 7, 1929, pp. 580-586.

2. ------------ *Phil. Mag.* (London) Vol. 15, 1933, pp. 1085—1091.

3. ------------ *Studies on the Periodicity of Earthquakes*, London, 1938.

4. Milne, J. *Catalog of Destructive Earthquakes* (A.D. 7 to A.D. 1899), Brit. Ass. Rep., 1911. pp. 649-740.

Table 1

Dates of one of the times in each century when we in the Northern Hemisphere had a peak of the 11-year cycle of destructive (Grades 1, 2 & 3) earthquake abundance.

Internal	Intensities	No. of Quakes	Year of a Peak
1305—1403	3, 2	82	1315
	3, 2, 1	133	1314
1404—1502	3, 2	93	1413
	3, 2, 1	176	1413
1503—1601	3, 2	130	1511
	3, 2, 1	222	1507, ab.
1602—1700	3, 2	225	1612, ab.
	3, 2, 1	342	1612, ab.
1701—1799	3, 2	294	1709
	3, 2, 1	584	1708, end
1800—1898	3, 2	743	1807
	3, 2, 1	1798	1807

Table 2

Dates of the most and the fewest sunspots and the most and the fewest earthquakes, both north and south of the equator, 1825—1898. Dates for all three intensities except in a few cases where the dates of peak earthquake activity are not well defined. These cases have supplemental dates marked with a star for intensities 3 & 2 only, a dagger for intensities 1 only.

Sunspots		Earthquakes			
		N. Hemisphere		S. Hemisphere	
Most	Least	Most	Least	Most	Least
1829		1829		1829	
	1833		1834		
					1832 end
1837					
		1837		1836end	
	1843		1842		1840
1848		1846		1847	
				1849	
	1855				
			1854		1854
1860		1860		1861	
				1860	
	1866		1865		1865
1871				1870end	
		1870		1871	
	1877		1877		
					1877
1883		1883			
				1833	
	1888		1891		1891
1894		1895		1896	

LONG TERM GROWTH TRENDS

IN THE AMERICAN ECONOMY*

by Edward R. Dewey

III

The Growth Trend in Our Basic Industries –

Continued

This little book is dedicated to the proposition—so often overlooked—that the American economy is growing at an ever decreasing rate, and that ultimately a time will be reached when we will enjoy little or no further growth.

Previous installments have shown that growth at a decreasing rate is universal in nature. In fact it can be said that this is the law of growth. The American economy is no exception to this universal law.

The underlying growth trend of a series of numbers can usually be expressed by a smooth curve which is concave downward when charted on ratio scale. I have given you several examples.

There are however variations. One of these—rebirth—was discussed in the last installment of this chapter.

This installment will discuss other abnormalities.

Future installments will give further examples of normal behavior and will discuss the present situation.

ABNORMALITIES

There is a certain similarity between the growth of an industry and the growth of a tree. Normally a tree grows gradually from seed to maturity. Sometimes, however, things happen. It can be stimulated by fertilizer and/or especially favorable growing conditions. It can be cut back. It can even be killed. Or it can be almost killed. Having been almost killed it can recover. However, in any event, eventually it reaches maturity and grows no more. Industries behave the same way.

Examples

As examples I shall discuss for you (1) the trend of the wool production industry, which received a shot in the arm, (2) the trend of the cotton production industry, which was cut back, (3) the trend of the wagon industry, which was almost killed, and (4) the trend of the beer industry which was almost killed (legally it *was* killed), but which was resurrected.

In the next installment I shall discuss industries which have reached maturity.

Wool

Wool production in the U.S.A. from 1840 through 1956 is shown by Fig. 16. Two trends are shown, one prior to and one following the Tariff Act of 1924. The second trend is *displaced* relative to the first one. That is, it proceeds in much the same way, but at a higher level.

Cotton

Cotton production in the U.S.A. from 1800 through 1956 is shown by Fig. 17. Two trends are shown, one prior to and the other following the Civil War of 1861—64. It is clear that cotton production was *cut back*, and that it then grew again.

Wagons

Horse drawn vehicle production in the U.S.A., from 1840 through 1939 is shown by Fig. 18. From 1900 on this industry was gradually *killed* by the motor production vehicle industry. The industry is now so small that separate figures in regard to it are no longer gathered.

Beer

Fermented malt liquor production in the U.S.A., from 1870 through 1956 is shown by Fig. 19. This industry was legally *killed* by prohibition, *resurrected* by repeal.

Summary

There is a law of growth, but abnormalities are possible. In addition to *rebirth,* discussed in the last installment, we can have *displacement, cut backs,* and *death.* Death can be followed by *resurrection,* but usually it is not.

These occasional exceptions in no way undermine the general thesis that *normal* growth can be expressed by a smooth line which is concave downward when charted on ratio scale.

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*A REVISION OF CHAPTERS I-IV OF *Cycles—The Science of Prediction* BY EDWARD R. DEWEY AND EDWIN F. DAKIN. TOGETHER WITH SUPPLEMENTAL MATERIAL.

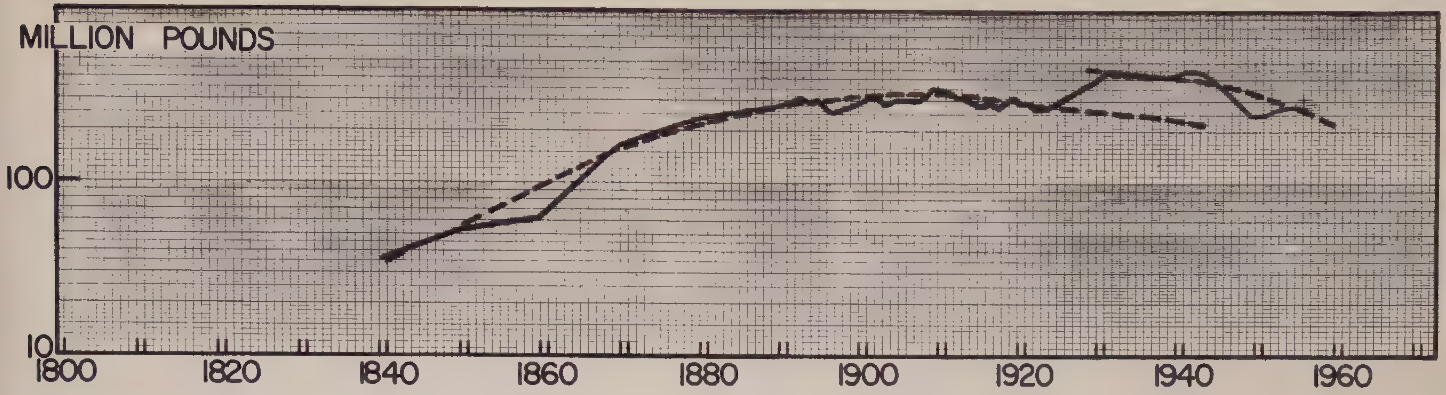

FIG. 16. WOOL PRODUCTION

Wool Production, U.S.A. in Pounds, 1840—1956 Data decennial 1840—1890; annual 1891—1956. Two trend lines have been added (broken lines), one prior to and one following the Tariff Act of 1924. The latter has been projected tentatively to 1960.

Wool provides an example of an industry that has a displaced trend line. Ratio Scale.

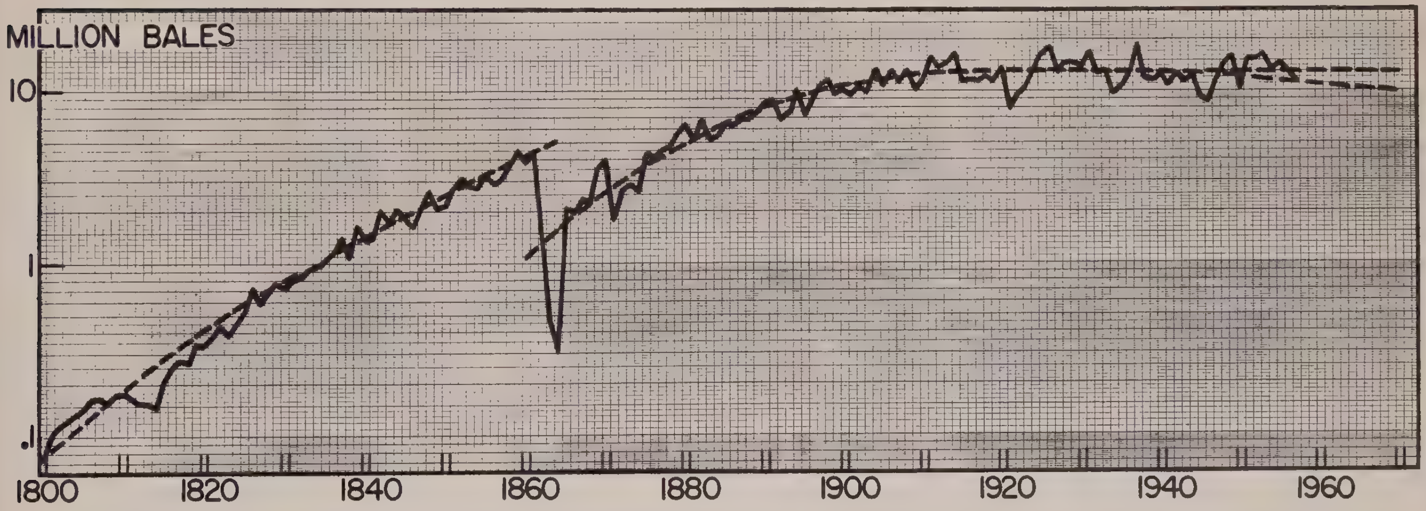

FIG. 17. COTTON PRODUCTION

Cotton Production U.S.A., in Bales, 1800—1957. Two trend lines have been added (broken lines), one prior to and one following the Civil War. The latter has been projected tentatively on a dual basis to 1970.

Cotton provides an example of an industry that was cut back, and grew again. Ratio Scale.

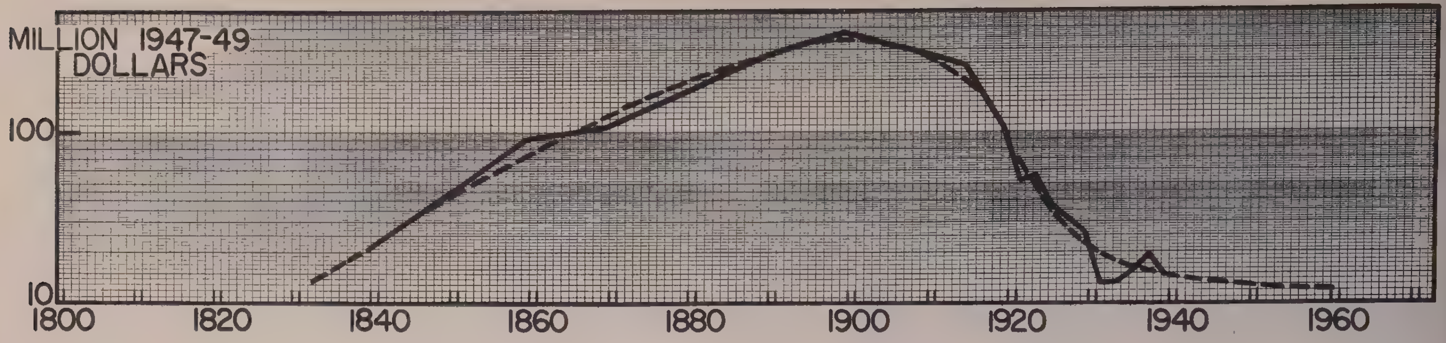

FIG. 18. WAGON & CARRIAGE PRODUCTION

Horse Drawn Vehicle Production, in Adjusted Dollars, U.S.A., 1839—1939. Data decennial 1839—1899, quinquennial 1899—1919, biennial thereafter. Data are adjusted for the purchasing power of the dollar, 1926=100. A trend has been added (broken line) projected tentatively to 1960. The dotted line shows how this industry might have unfolded if it had not been for the automobile.

Wagons provide an example of an industry that was killed, for all practical purposes.

Ratio Scale.

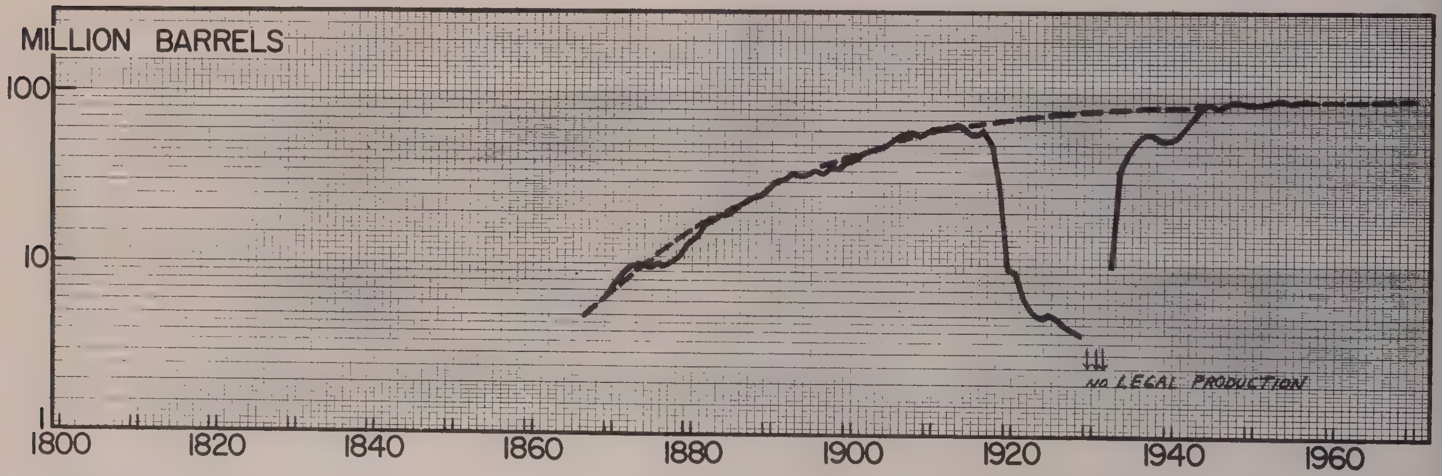

FIG. 19. BEER PRODUCTION

Fermented Malt Liquor Production in Barrels, 1870--1957. A trend has been added (broken line), projected tentatively to 1970.

Beer provides an example of an industry that was *killed* (legally), and then *resurrected*.

Ratio Scale..

PERIODIC INSPIRATION
in
POETRY AND MUSIC

By

J. H. Douglas Webster

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FOUNDATION FOR THE STUDY OF CYCLES

FOREWORD

DR. J. H. DOUGLAS WEBSTER'S *chief contributions to the knowledge of rhythmic fluctuation are in the field of medicine. It is, however, a condensation of his address before The Poetry Society (London) dealing with rhythms of inspiration in poetry and music that has seemed to us to be of more general popular interest at the present time and therefore more suitable for publication as a Foundation Reprint. This condensation is reproduced herewith through the kindness of Dr. Webster and of* The Poetry Review.

Are there really rhythms of creative ability? If so, are we all subject to them? Are there time intervals other than the 33 weeks observed by Dr. Webster?

These are some of the questions that come to mind as one reads the fascinating little paper that follows.

EDWARD R. DEWEY

PERIODIC INSPIRATION IN POETRY AND MUSIC

. . she saw
Time like a pulse shake fierce
Through all the worlds.

AS our bodies in their functions (as breathing) show rhythms, and in their growth and development show stages or periods (as Shakespeare's *Ages of Man*), so it is likely that the mind has its cycles, other than those of sleep and waking, or those caused by the seasons of the year.

In a few poets and musicians, and in several other writers and scientists, it has been found that the "peaks" of their productiveness show a cycle or rhythm, based on a cycle which in recent years has been found to be operative in a number of widespread diseases (as tuberculosis, cancer, influenza, malaria, and a number of other infective, metabolic, nervous or mental diseases). Such a widespread range suggests some earth-wide natural cause; and it is suggested that the physical cause of this cycle is the minor cycle in sun-spot activity first discovered by R. Wolf of Zurich in 1859. [The 11-yearly sun-spot cycle (with its minor 4- and 7-year waves) has been known for some time to affect plant life, as in the breadth of annual tree-rings; and animal life, in epidemics and in other ways; and the 7.6 months (33 weeks ±3 weeks) cycle of Wolf has been shown to affect growth in the California Redwood trees.]

Cabanis (1802), Goethe (1828), Dowden (1875) and Alice Meynell (1893) are among those who have suggested that thought, specially in artistic creation, is subject to rhythm. But apart from the monthly (27-28-day) cycle—an eighth of the period, and the 7-yearly cycle—eleven periods, no attempts have been traced which have led to the recognition of any definite rhythmic "laws of thought." [The monthly cycle has been studied in a much too rigid way by Fliess (1906, 1923); and the 7-year cycle has been studied by Swoboda (1917), from a heredity aspect in human records and in race-horses.]

Wolf's 7.6 months' period, found to be operative in some cases of mental cyclic disorder, has been found to be the basis of the peaks of creative activity in the following:

(1) Rupert Brooke, Keats, Shelley, Gray, Victor Hugo; Mozart, Rimsky-Korsakov, Tschaikovsky, Sibelius (in all these *monthly* data are available).

(2) Christina Rossetti, Anne Brontë, Goethe (often), Platen, Schutze; Schubert (often) (in these *daily* data are usually available).

In many artists the data needed (at least *monthly*) have not been recorded in the Biographies or Collected Works consulted: thus, in the instances of Coleridge, Wordsworth and Whittier, only *yearly* data are given as a rule.

Several of the above-mentioned artists suffered from tuberculosis, which has a similar cycle of relapses; but in others there was nothing to indicate that disease played any part in the cycles of their productiveness.

The periods of creative activity can be appreciated best if the dates of the artist's works are charted out graphically on scaled paper. Such charts have been prepared for Rupert Brooke, Keats and Shelley (monthly data); and for Christina Rossetti (daily data); also for the "onsets" of ten artists (*i.e.,* first signs of creativeness above the ordinary level).

Studies can hardly be carried out in detail, or in many instances, without a Table of Dates at 7.6 months' intervals (as one published by me). But when greatly abbreviated the periods may be recognised if the main "peaks" are tabulated as follows:

KEATS

Periods (7.6 m.)	*Dates*	*Works (peaks)*
1	1816, October	*Chapman's Homer* sonnet (first poem showing genius)
1	1817, May	*Endymion* begun;
1	1818, January	*Endymion* finished; "When I have fears" sonnet.
1	1818, September	*Hyperion* begun;
½	1819, April-May	*Hyperion* ended; Odes:
1	1819, September	*Autumn* ode; (Letters).
½	1820, April	*La belle Dame* revised.
	1820, September 2	*Bright Star* revised.

A full analysis of the dates of the works of Keats would occupy much more space than can be given here. But it may be noted that his other better poems were mostly composed on the five half-periods from November, 1815, to May, 1817, and on the five half-periods (very slightly longer) from January, 1818, to September, 1819: in the intermediate months as a rule only minor compositions were produced. *Endymion* and *Hyperion* (first draft) were composed on "plateaux," each lasting about 7.6 months. (These "terraces" or "plateaux" are characteristic in some diseases.) Shelley, in some of his longer poems, shows similar "plateaux" of creativeness.

Much interest relates to the detailed chart prepared from the *daily* data available for the poems of Christina Rossetti: the years 1856-1860 were chosen, as her brother, William Michael, said in his Memoir, these were among the "least unhealthy years" of her womanhood. As she wrote in all about 1,050 poems, very many dated to the day, and most of them were quite short, the data are of great value. Eight "half-periods" in polyphases are shown from January 20th to December 31st, 1856; and three periods (in polyphase) (January 20th to September 11th; March 12th to October 28th; and April 14th to November 28th).

33 dates of poems in the years 1856-1860 are interconnected by periods or half-periods, or by their multiples or sub-multiples. Half periods are seen both in the 15 weeks' and 18 weeks' varieties, as in the 16½ weeks' type. Many dates are accurate *to the day* on the 7.6 months basis.

In Christina Rossetti can be traced well two corollaries of the theory here suggested. One is that, as indicated above in the notes on Keats, minor compositions are usually written on dates intermediate between the main periods. I can confirm this aspect from my MS. copies of my own rejected poems (pen-name : Colin Tolly) ; almost always the better compositions have been written at "periods" ; and whenever an "urge" to compose has been at an interval, or at a very minor "period" (as a 27-28-day one, which does not coincide with a 7.6 one, or its half or quarter), then the result as a rule has been mediocre. The second corollary is that certain ideas or moods are periodic. Thus, Christina Rossetti has several poems describing nightmares : these are all periodic. A similar relationship has been traced in the case of Goethe, as regards his inspiration from Greek subjects ; and in the case of Platen in several of his topics for poems.

Seven- and 11-year periods have been traced in Gray, Southey and Goethe, among others. They can only be referred to briefly here. The 7-year period was first noted by Pythagoras, and was known to Cicero and Seneca.

The ancient and some modern theories of "inspiration" would require much space for anything like an adequate discussion. In the encyclopaedias the subject is dealt with usually under the main or sole topic of religious inspiration. Meric Casaubon, in 1656, published the second edition of one of the best studies I have found of "enthusiasm" (apart from religious aspects) : he discussed it under general headings and five special types, as rhetorical, poetical and philosophical (he hoped to have included musical and military among other types which remained undescribed). In these spheres he held it was "natural," and neither divine nor diabolical. Writing in the days when witchcraft and astrology had many believers his work is full of a wisdom much in advance of his time. Goethe, in his *Conversations with Eckermann* (1828), had much of value to say about inspiration or "productiveness" : remarkable discoveries and thoughts are not in the power of anyone ; they are "elevated above all earthly control. Man must consider them as an unexpected gift from above, as pure children of God, which he must receive and venerate with joyful thanks." A. J. (Lord) Balfour (1895) said of inspiration that it is "limited to no age, to no country, to no people . . . . every addition to knowledge, whether in the individual or in the community, whether scientific, ethical or theological, is due to a co-operation between the human soul which assimilates and the Divine power which inspires."

From the psychological point of view inspiration can arise on various levels of importance; and on the side of the emotions, the thoughts or the will, or in various combinations. Music usually springs up as a *mood* first of all; and many poems and other works of art have begun in this way. How it comes in the realm of *ideas* has been explained perhaps best by William James (1892), as the unsought meeting of two ideas by free association causing an "explosion." Middleton Murry, in his illuminating study of Keats's *Chapman's Homer* sonnet (1928-1929), showed how the reading of Homer in translation throughout one night, with his friend Clarke, was as a "spark to ignite a highly combustible gas in the poet's mind into a flash of perfect incandescence. The force of the explosion is as great as the flame is beautiful." Dr. Rosamond Harding, in her valuable study, *An Anatomy of Inspiration* (1940), advocates a similar "flash" theory.

The subject here brought forward has many theoretical and practical aspects of importance. How many examination candidates have failed unexpectedly because the date chosen happened to be one when their memory and powers of expression were not at their best? Horace, in the *Art of Poetry* said, "You should speak or do nothing if Minerva is unwilling" (*Tu nihil invita disces faciesve Minerva*). And Goethe advised that one should "force nothing, and rather trifle and sleep away all unproductive days and hours." The misery many artists have endured in times of fallowness or depression would have been lessened had they recognised the inevitableness of rhythm in creation: men—"if they would be wise, must wake and rest in its phases" (Alice Meynell). Further research certainly is called for in this promising field.

J. H. DOUGLAS WEBSTER.

Postscript.—Similar cycles of productiveness have been found (on a 7.6 months' basis) in: Walter Scott, Kathleen Mansfield, Flaubert, Ibsen; Wagner; Charles Darwin, Claude Bernard and Faraday. 7- or 11-year periods can be traced in the lives and writings of A. E. Housman and W. B. Yeats.

J.H.D.W.

cycle round-up

MARCH 1958

This department gives the latest values of various series of figures. These are series that I have studied for cycles and that I have told you about in previous reports. This section does not carry the detail that the original research report gave, but the purpose here is to show the extent to which the cycles are or are not continuing to dominate.

Only a few of the hundreds of things I have discussed in our 80 previous reports can be brought up to date in any one issue. This issue brings up to date the following series of figures and cycles:

Stock Prices - 11 cycles

Residential Building - 2 cycles

War - 4 cycles

Barometric Pressure At New York City - 1 cycle

Wheat Prices - 1 cycle

Corn Prices - 1 cycle

Liabilities Of Business Failures - 5 cycles

Sunspots - 1 cycle

Series for which only annual figures are available will be used only when new figures are issued or as general interest demands. Other series will be substituted from month to month.

CONCEPTS AND TERMS

It may be helpful if I used the rest of this page to explain to you some concepts and terms.

CONCEPTS

The concept of cycles is very simple. When a series of figures increases and decreases at intervals that recur with reasonable regularity, you have what is known as a **rhythmic cycle**. When such a cycle continues for *enough* waves and/or with *enough* regularity, we have behavior that cannot reasonable be random. If the regularity isn't random, it is unwise to ignore the possibility that it may continue.

Of course, even if wheat prices, let us say, have gone up for two years and down for two years regularly for the past hundred years, we don't *know* that they are going to continue to do so for the four years next following; but the fellow who ignores the possibility would be foolish indeed.

TERMS

The terminology of cycle study is based on the fact that you usually *chart* the successive numerical values of the events you are studying. As a result of this fact we refer to an *increase* of value over a period of time as an **up**, a *decrease* of value over a period of time as a **down**.

Waves

An up and a down together constitute a **wave**, because the chart of such a movement looks like the cross sections of a wave of water. A wave is thus one complete oscillation from a bottom to a top to a bottom again; or, if you prefer, from a top to a bottom to a top.

The bottom of a wave is called a **low**, a **valley**, a **bottom**, or a **trough**; the top of a wave is called a **high**, a **peak**, a **top**, or a **crest**.

Waves have length, strength, shape, and timing.

The **length of a wave** can be measured from one bottom to the next, or one top to the next. In cycle study length is measured in *time*. For example a wave that goes up for two years and then down for two years is spoken of as a four year wave.

The **strength of a wave** is measured from its top *or* its bottom to a line more or less midway between the two called the **axis**. Strength is usually measured in percent. The strength of a wave is also called its **amplitude** or its **height**. Amplitudes can be *positive* from the axis to a top, or *negative* from the axis to a bottom. For example the strength or amplitude of some particular wave might be 10%. That is, the top might be 10% above the axis.

There are various wave **shapes**. One shape is *zigzag*.

The **timing of a wave** is the calendar time of a top or a bottom, as stated. For example, a wave might have a top in January 1957.

Cycles

A single wave is sometimes called a **cycle**, but the word cycle is more often used to refer to a sucession of waves, each of about the same length.

The **length of the cycle** is the average length of the waves which make it up. For example, a 12-month cycle is one made up of waves that *average* 12-months long, even though the individual waves might be a mixture of 10, 11, 12, 13, or 14 months waves.

Ideal Highs and Lows

The time of **ideal high** is the time when the high most usually comes. For example, *on the average* in New York City the weather gets hotter and hotter until July 23rd; then cooler and cooler. July 23rd would therefore be the time of *ideal* high. In any given year the **actual high** would of course probably come early or late.

Trend

Trend is the *underlying* tendency of a series of figures. It changes its direction *gradually*, in contrast to the actual figures which jump up and down. Trend is an imaginary line on the chart that goes more or less midway between the tops and the bottom of the waves.

E. R. D.

STOCK PRICES

As you know, the synthesis of 11 stock market cycles is *downward* at the present time. This suggests that, if the cycles that have operated in the past continue to dominate, the index for the year 1958 as a whole should, on the average, be less than the index for the year 1957 as a whole. Further decline is suggested for 1959, and for 1960.

These cycles were isolated from the Standard & Poor's Corporation Combined Index, 1871-1943, and, in some instances, 1871 - 1956.

The work is based on annual averages and does not attempt to pinpoint the time of the coming trough.

If the low of the present wave should come in 1959, 1960, or 1961, we shall be very well satisfied indeed. What the work says is that the combination of cycles is going down to 1960. That is all it says.

But this combination has worked well enough in the past that this result definitely suggests that we are in a period where continued caution is in order.

On the chart a definite level has been assigned to the coming trough. When the cycles are combined they are wrapped around a trend line and the level of the low is thus partly a function of the particular trend being used.

Thus, although there is a clear line at just under 16 on the chart, this can slide up or down as trend is revised.

The 11 cycles isolated in the study, and used in the synthesis are given in the following table, which lists the length, strength and timing of each.

Length in Years	Strength (Average Percent Above Trend at Ideal Time of High)	Timing (Date of the Current Ideal High)
4.89	3.5%	1954.41
5.50	7.0%	1958.00
5.91	6.4%	1958.69
6.86	8.3%	1957.40
8.17	4.7%	1954.16
9.18	17.1%	1955.66
11.0	3.8%	1952.50
12.8	10.9%	1953.90
14.5	12.25%	1957.50
22.0	21.6%	1952.60
27.0	14.3%	1956.50

The actual value of Standard & Poor's Combined Index (now 500 stocks, 1941-43 = 10) for the year 1956 as a whole was 46.62. For 1957 as a whole it was 44.38, down 4.8%.

Recent values of the index are:

Month	Index
1957 - July	48.51
November	40.35
December	40.33
1958 - January	41.12
February (est.)	41.48

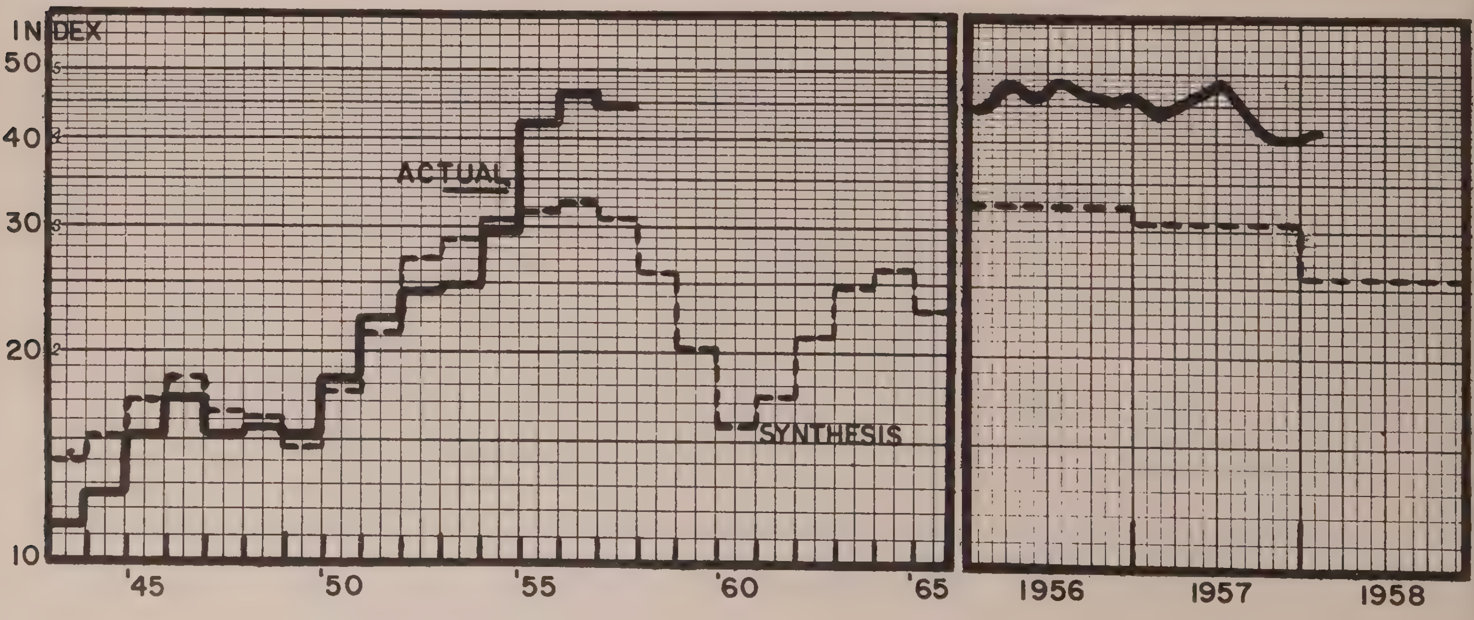
Recent figures for the Dow Jones Industrial Averages are:

Month	Average
1957 - July	514.64
November	436.73
December	436.94
1958 - January	445.68
February (est.)	444.68

Note that the Standard and Poor's Index is for *Combined* stocks. The Dow-Jones Averages given above are for *Industrial* stocks.

For further details regarding studies of cycles in stock prices, refer to 'Trend and Cycles in Stock Prices' *Cycles*, January 1957, pp. 5-12; 'The 5.91 or 5.92-Year Cycle in Stock Prices,' *Cycles*, April 1957, pp. 93-98; 'The Combination of 11 Stock Market Cycles & Trends,' *Cycles*, July 1957, p. 176.

G. S.



RESIDENTIAL BUILDING CONSTRUCTION

Contracts awarded for building construction in 48 states are dominated by a seasonal pattern, by a 32.3-month cycle, and by an underlying trend.

The Cycle and the Trend

The 32.3-month cycle crests ideally in March 1958.

The latest available figures suggest that the underlying trend for March 1958 will be $1,020,000. *Estimates of trend should be revised at frequent intervals.*

The Calendar Year 1958

Based on this assumption the projected value of residential contracts for calendar year 1958 is $12,725,000,000. If realized, this value will be off 4% from the estimate for calendar year 1957, $13,301,000,000. This runs counter to many expectations.

Year Centering on March 1958

Odds are 8 to 1 that the year centering on March 1958 will exceed $12,240,000,000, if my estimate of the underlying trend is correct.

The array of possibilities, for the year centering on March 1958, (mid-Sept. 1957, to mid Sept. 1958) based on behavior at various past cycle crests, and my estimate of underlying trend, is as follows:

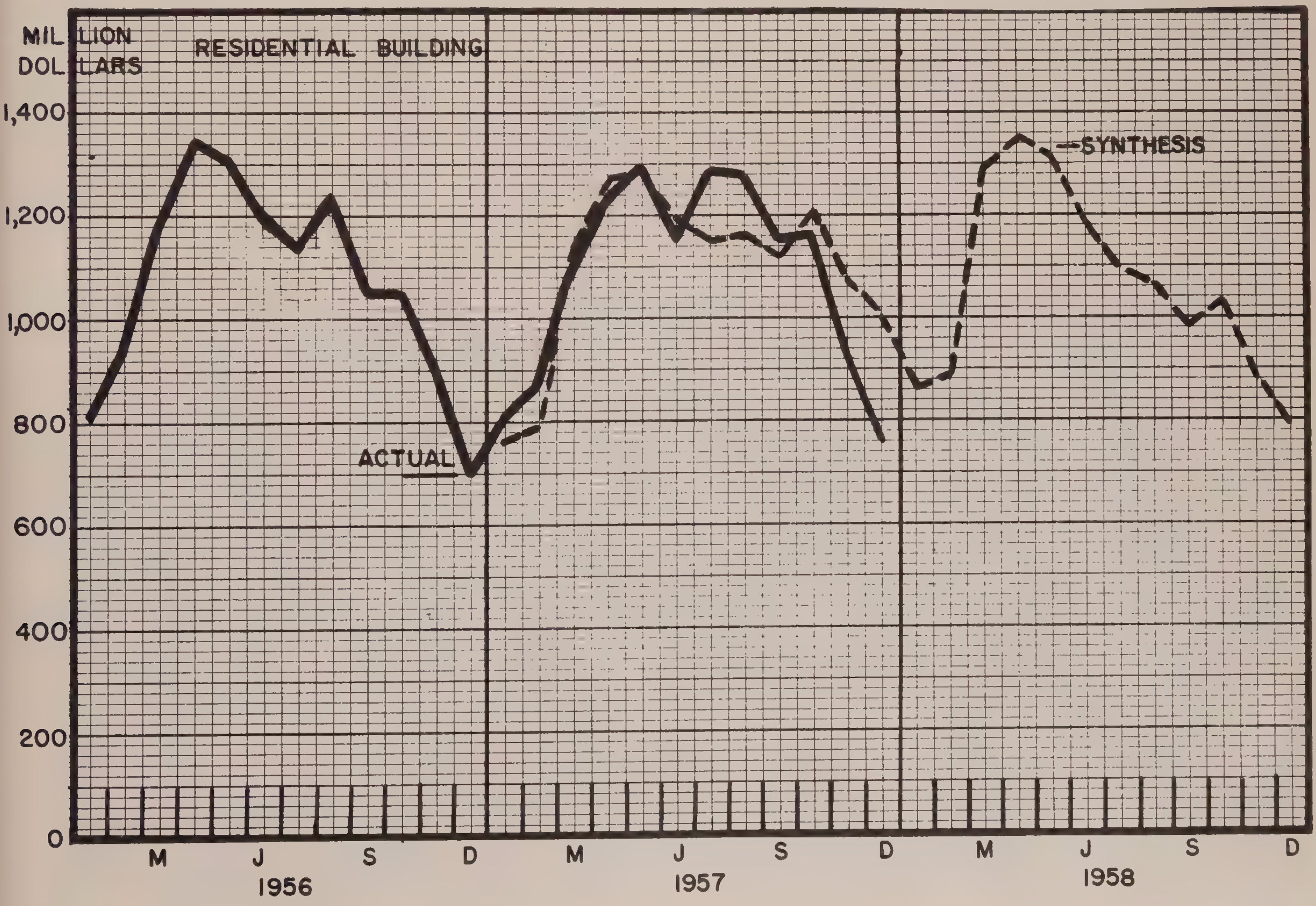
Rank	%	Projected Values (in Billions)
Greatest	17.0	$14,321
2nd	16.2	14,223
3rd	13.5	13,892
4th	13.3	13,868
5th	13.2	13,856
6th	5.0	12,852
7th	3.0	12,607
8th	2.6	12,558
Least	-1.3	12,081

The most probable value for the year centering on March 1958 (based on the average of past percentages), is $13,359,000,000. The odds are 5 to 4 that the value for this year centering on March 1958 will lie between $12,607,000,000 and $13,892,000, if my current estimate of the underlying trend is correct.

References

For further details in regard to this cycle in residential building construction, see 'What's Ahead for Residential Building Construction?' in *Cycles* for November 1957, pp. 283-294, and 'December Cycle Round-Up' in *Cycles* for December 1957, pp. 326-27. See also 'The 33-Month Cycle in Residential Building Construction' in *Cycles* for August 1956, p. 228.

E. R. D.



The International Battle Index - the Index of War - is going up. This is illustrated on the chart below where the broken line diagrams the ebb and flow of the combination of four cycles which have been isolated in the War Index.

The solid line is the record of actual international conflict.

The correspondence between the two lines is the basis for our conclusion that the basic problem with which we have to cope over the next decade is war.

This conclusion is qualified by one if - if the cycles in the index continue to operate as they have for so many years in the past: for 2,556 years, to be exact.

The data we used in this work was developed and extended over this long period of time by Professor Raymond K. Wheeler of the University of Kansas. He and a staff of workers searched all available historical records. To every mild battle he gave a value of one; to every average battle he gave a value of two; to every especially heavy battle he gave a value of three. The index value for any given year is the sum of these values for that year.

Recently Professor Wheeler brought the Index up to date so that the chart carries the actual record through 1957.

Professor Wheeler also developed a Civil War Battle Index, but that does not concern us here.

The Index of International Battles goes back year-by-year to 599 B.C. The cycles which we isolated in the series are summarized in the following table which gives the length, strength, and timing:

Length: in Years	Strength: Per Cent Above Trend	Timing: Date of High
11 1/5	52	1960
22 1/7*	157	1963
57	151	1975
142	78	1950

The 11-year cycle has been traced back to A.D. 1750. The 22-year cycle is present on the average in each part of the data all the way back. There is no question in regard to the significance of these two cycles in these figures. Cycles of 57 and 142 years in length have also been found, but of course there are not as many repetitions of these.

The four cycles are combined to make one line, the synthesis line on the chart. As you can see, this curve rises rapidly to a plateau of high intensity during the early 1960's. Very dangerous times lie immediately ahead.

For a complete article giving in detail the analysis which lead to this conclusion see "What's Ahead for War?" by Edward R. Dewey in the February, 1958, issue of *Cycles*, pages 41 - 62.

Included in the article was a record of the Index of International Battles which ended with the Index for the year 1943.

The Index values as prepared by Professor Wheeler for recent years are:

Year	Index	Year	Index
1944	150	1951	12
1945	150	1952	0
1946	1	1953	2
1947	0	1954	2
1948	0	1955	3
1949	0	1956	12
1950	15	1957	5

G. S.

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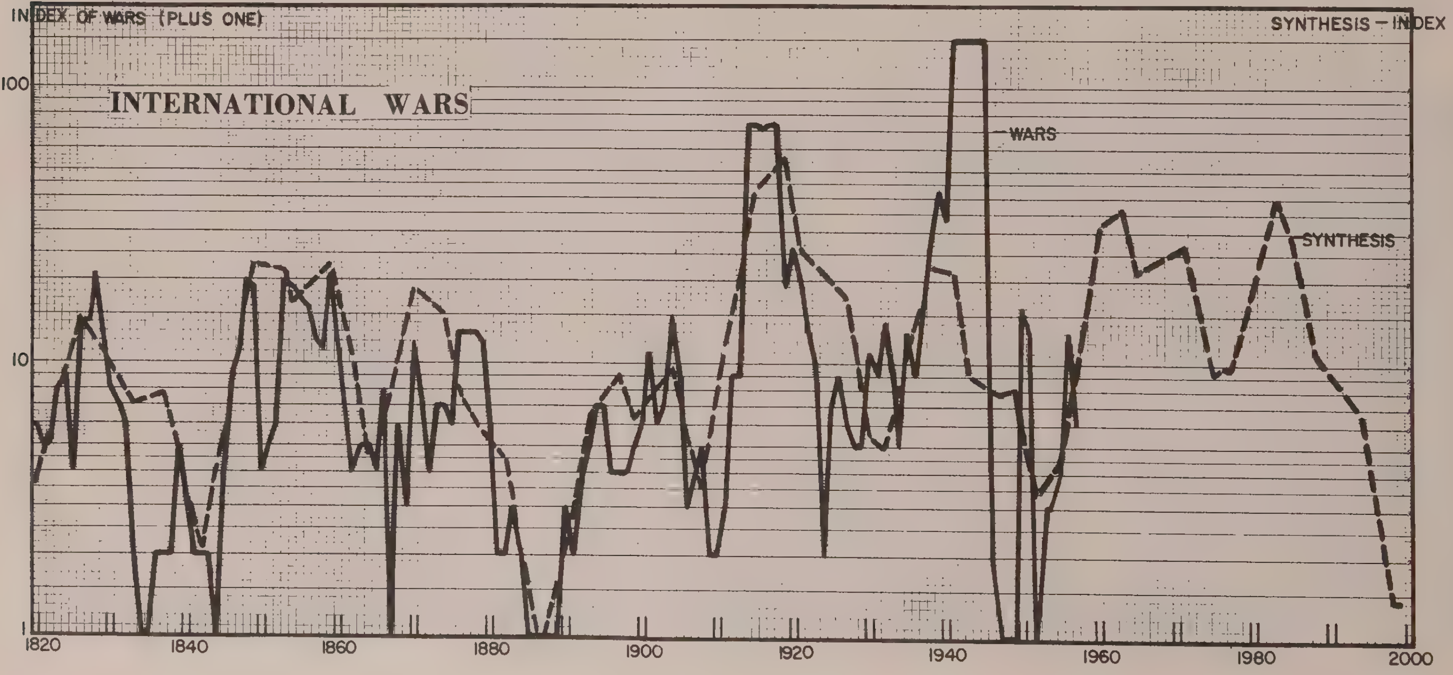
*OVER THE ENTIRE PERIOD, 599 B.C. TO DATE, THE LENGTH IS 21.95 YEARS.



BAROMETRIC PRESSURE AT NEW YORK CITY

Barometric pressure at New York City has moved up and down in a cycle which has been 7.6 years long, on the average, since 1873.

We last reported to you about this wave in the November, 1956, issue of *Cycles*, and this page brings that story up to date by adding two additional years.

The new data fit well into the average pattern previously decided upon.

This pattern has a typical amplitude of .010 inches of mercury above and below trend. It has a trough at September-October 1954, and a top at July, 1958.

This ideal strength and timing are shown by the broken zigzag line on the chart below.

The solid line on the chart represents the actual barometric pressure, but after smoothing with a three-year average.

That is, the original data are so erratic in appearance that the structure of the cycle would not be visible by inspection. Therefore, the three-year averages are used to illustrate the actual behavior of the data.

Any point on the solid line is the average for three years: the year of the point, the year before, and the year after.

Thus, the last point on the solid line, which is plotted at 1956, is the average pressure for 1955, 1956, and 1957. These three years are shown separately on the chart by the three dots.

The average annual pressure readings at New York City for the last nine years have been:

Year	29 Inches Plus
1949	.730
1950	.700
1951	.680
1952	.660
1953	.660
1954	.640
1955	.670
1956	.670
1957	.710

As you can see, the actual year of low was 1954; this also was the ideal low year.

Now you know that the actual low or high year does not necessarily correspond to the ideal low or high year. However, the correspondence between ideal and actual turning points that does exist is a fundamental measure of the reliability of any cycle.

In this case, of the 22 ideal turning points, a total of 7 have been on time, and 10 have been a year early or late.

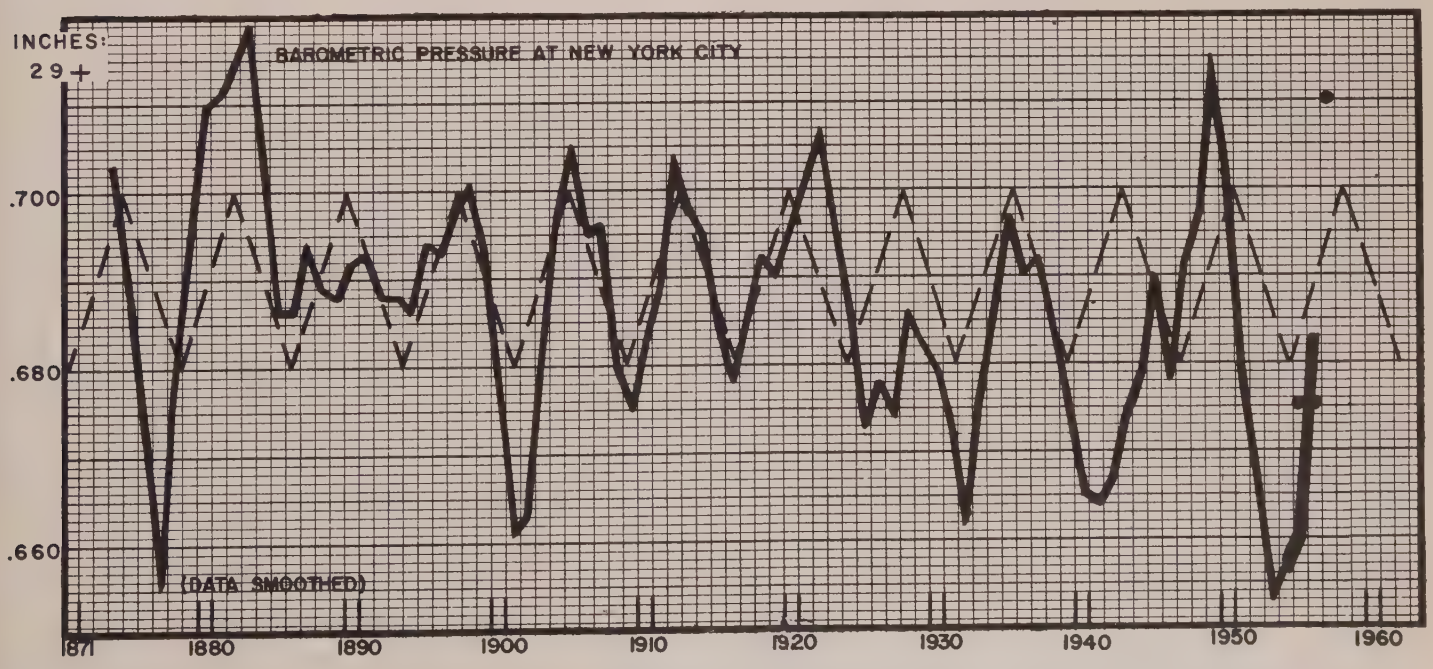
Thus, in 17 out of 22 times the actual turning points have been no farther than one year from the ideal timing.

Furthermore, this is not an isolated instance of a 7.6-year wave. The presence of the same cycle in other data also lends credence to actuality here.

H. H. Clayton found a 7.54-year wave in barometric pressure from latitudes above 60^{0} in Siberia and Iceland to the tropics in Calcutta. (This is probably the same wave.)

A 7.6-year wave has also been found by G. Lane in 200 years of sunspot numbers. The Foundation's analysis of pig iron prices shows a 7.6-year wave present on the average for 167 years.

Based on corroboration by these and other series, and on the evidence of the data as shown by the chart, it is a fair bet that this cycle is real and will continue. *G. S.*



WHEAT PRICES

Wheat prices act as if they were influenced by a number of cycles. The most important of these, and the best substantiated is one about 9.3-years long. This cycle is going *down* at the present time. The bottom is due in February, 1960. Of course, the *actual* bottom of the cycle is almost certain to come before or after this *ideal* date.

In the past, prices at time of ideal low have, 7 times out of 8, been lower than prices at the preceding time of ideal high. Assuming the significance and continuation of this cycle in these figures this means that barring war, the odds are 7 to 1 that the price at the next time of ideal low, February 1960, will be lower than the price at the last time of ideal high, June-July 1955. As the price then was $2.68, the odds are, as stated above, that the February 1960 price will be down.

The most probable level to which prices will fall is about $2.22. This is just an average of the past experience on the down leg of the cycle as the following tabulations explain.

Previous gains, on the short side, from February 1867 to date, from time of ideal high to time of ideal low, ranked in order of size, are as follows:

135.7%
79.6
78.3
23.3
20.4
12.4
12.0
-24.8
-27.6

Applying these percentages to the price of June-July 1955 we get the following array of possibilities for February 1960:

1.14
1.49
1.50
2.17
2.22 Median
2.38
2.39
3.34
3.41

The median is the middle value.

This study was based on the price of No. 1 Dark Northern Spring Wheat at Minneapolis for which there is a long record.

Recent prices at Minneapolis are:

	Month	Dollars/Bushel
1957 -	October	2.428
	November	2.439
	December	2.390
1958 -	January	2.375
	February	2.24 1/8

Traders are more interested in *futures* prices at Chicago than cash prices at *Minneapolis*. Futures prices cannot be used for cycle study because they do not provide a continuous series of figures.

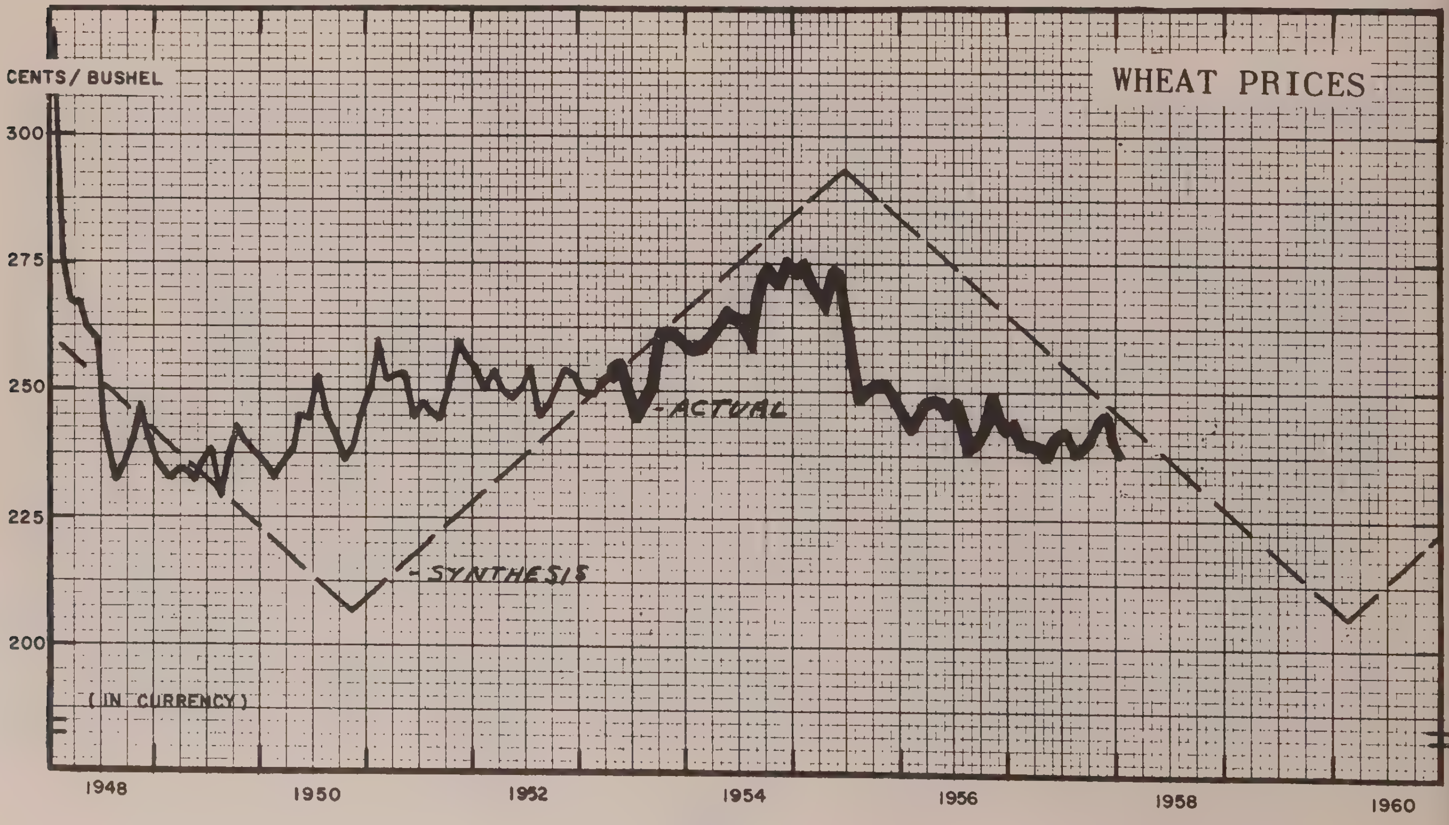
Even if this cycle is also influencing cash prices at Chicago, it would be similar in timing only, because the levels of prices at the two places are different.

Recent cash prices at Chicago for No. 2 Hard Winter Wheat are:

Jan. 31	$2.21 5/8
Feb. 7	2.21 3/8
Feb. 14	2.20
Feb. 21	

See also "What's Ahead For Wheat Prices," by E. R. Dewey, *Cycles*, September, 1957.

G. S.



CORN PRICES

The 67 1/3-month cycle in corn prices is in an *upward* phase at the present time. It will continue to be so until April 1958. Thereafter it will be in a *downward* phase until February, 1961.

On the chart below the broken line diagrams this cycle after it has been combined with trend. The solid line shows the actual price of corn.

The trend is the axis around which the cycle oscillates. If the trend is a horizontal line across the chart, the zig-zag of the cycle moves in a level direction. But if the trend is tilted the zig-zag of the cycle also tilts in the same direction.

In this case the underlying trend is *downward* at the present time. In fact it is so steeply downward that it will be hard for the cycle to prevail in the present instance.

But this one instance - if it does turn out badly - would not affect the reliability of the cycle over the long haul.

The 5 1/2-year (67 1/3-month) cycle was discovered in 1875 and has continued to manifest itself from then until now.

This cycle in corn prices has prevailed 16 out of 20 possible times since 1899, which is as far back as the monthly figures have been studied.

The odds are thus 4 to 1 that it will continue to prevail. The chances that a cycle will continue should always be figures in terms of odds.

Not only are the odds favorable, but the strength of the cycle is great.

In the past, at month of ideal high, corn prices have ranged from 11% below trend to 46% above trend. The various months of ideal high and the percentages by which corn prices were above or below trend at these months are shown in the following table.

MONTH OF IDEAL HIGH		PERCENTAGES ABOVE OR BELOW TREND AT IDEAL TIMES OF HIGH
AUG.	1924	46
MAR.	1902	30
APR.	1930	23
OCT.	1907	16
JAN.	1919	14
SEPT.	1952	9
JUNE	1941	3
JUNE	1913	-6
FEB.	1947	-7
NOV.	1935	-11

As you can see, the most typical (the middle) value is 11.5% above trend. The mean is 11.7% above trend. Ideal highs are 26½% above ideal lows.

Actual highs of course rarely come at ideal timing. In the majority of instances however they have come within 11 months one way or the other of ideal timing.

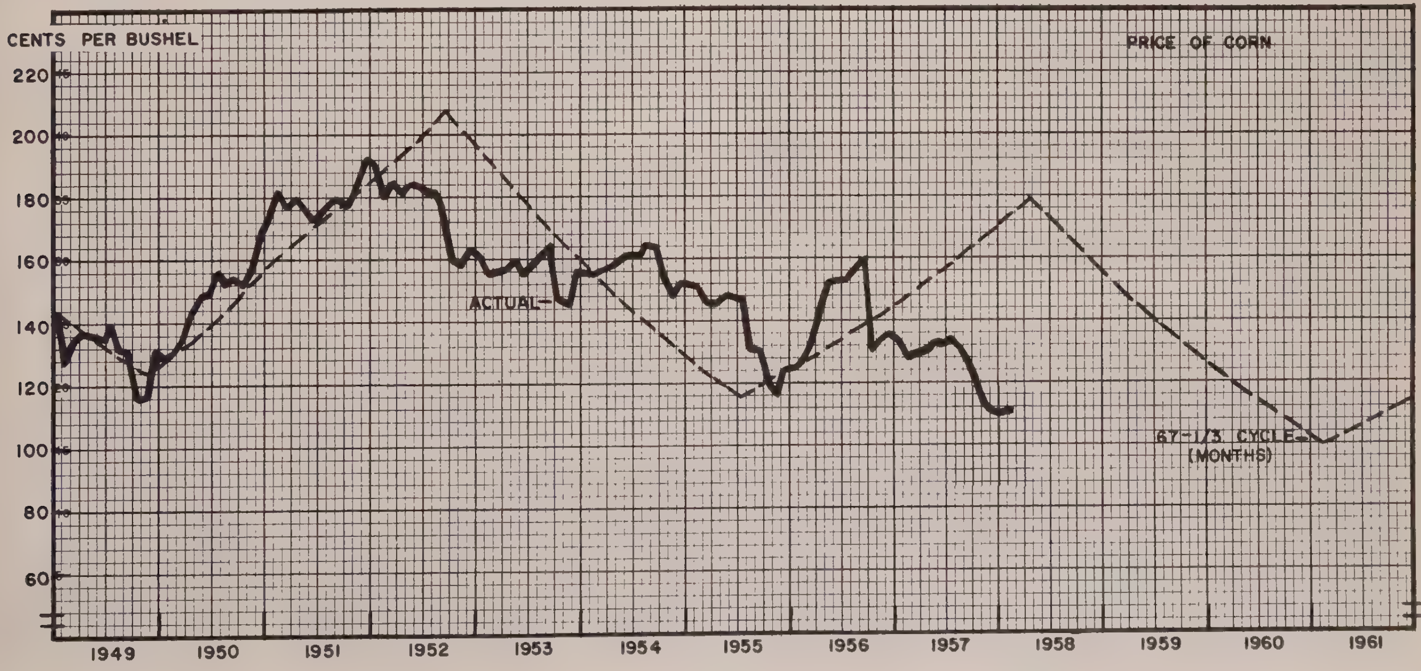
It is clear that the upturn of prices called for by this cycle has not yet shown itself. This fact suggests either (1) that this time the actual high will be late, or (2) that the underlying situation is so weak that the cycle has been offset.

Recent values of No. 3 yellow corn at Chicago are:

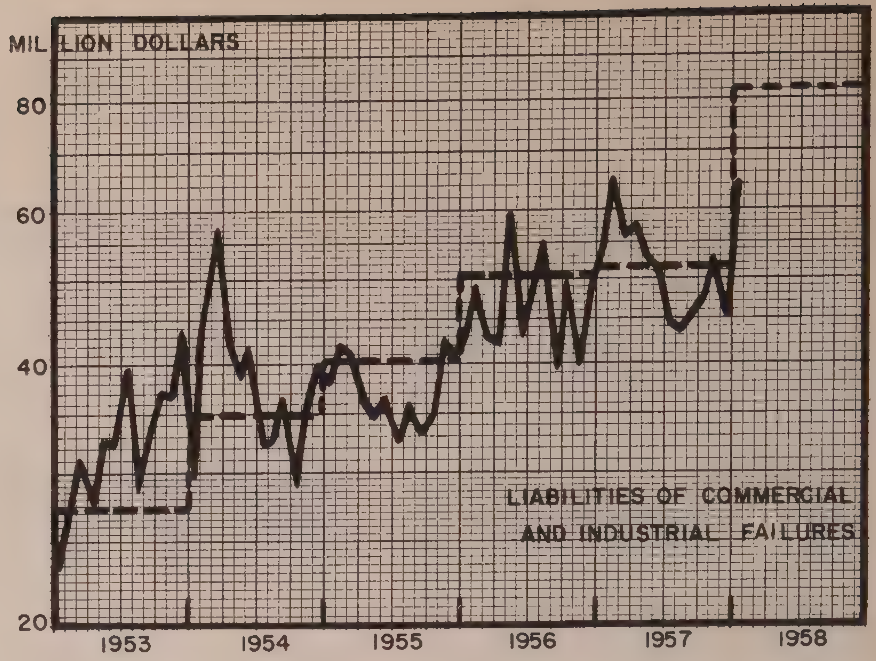
MONTH		DOLLARS
1957 -	JULY	$1.337
	AUG.	1.312
	SEPT.	1.262
	OCT.	1.189
	NOV.	1.157
	DEC.	1.148
1958 -	JAN.	1.108
	FEB.	1.125 EST.

For a full account of this cycle see "What's Ahead for Corn Prices?" by Edward R. Dewey, *Cycles*, June, 1957, pages 149-158.

G. S.



FAILURES



The combination of five cycles and estimated trend in the liabilities of commercial and industrial failures is upward at the present time. This is on an annual basis.

Actual average monthly liabilities in 1957 were $47.7 million, up slightly from the 1956 monthly average of $46.9 million. This is just as the analysis suggested.

If the cycles continue to prevail, and if our estimate of trend is accurate, 1958 should be considerably higher than 1957.

Recent monthly values are:

Month		Liabilities
1957-	August	$43,514,000
	September	42,420,000
	October	47,428,000
	November	52,899,000
	December	64,442,000
1958-	January—Not yet available	

In one way failures are an index of business health. Small failures, business pretty good; large failures, business pretty bad. However the correspondence is not perfect.

The five cycles which were isolated in this study were 3.42, 5.9, 6.5, 9.2, and 17 2/3 years long.

For further details regarding the study of cycles in failures refer to 'Trend and Cycles of Business Failures,' *Cycles*, May 1957, pp. 121-139.

G. S.

SUNSPOT NUMBERS

Many of our members have asked me to publish sunspot numbers. This cycle roundup section is a good place in which to do so.

The sunspot cycle is a little over 11 years long. Curiously enough, there is also, as you know, an 11-year cycle in business.

A chart of sunspot numbers, by years and by months, is given below. October 1957 was an all-time high.

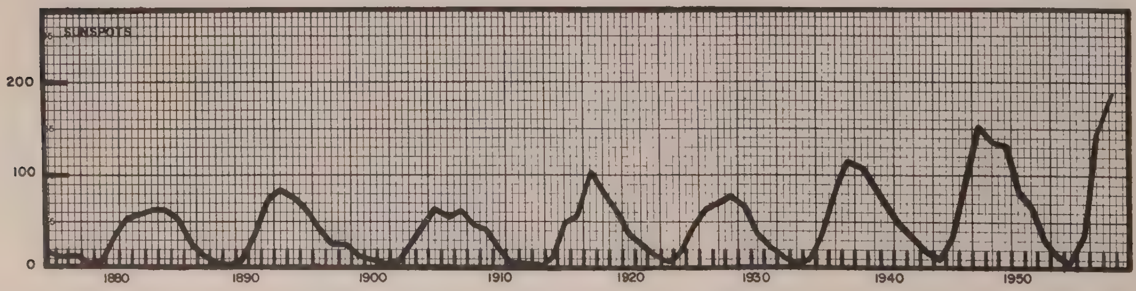
The relative sunspot numbers themselves, by year, 1930-1956 are as follows:

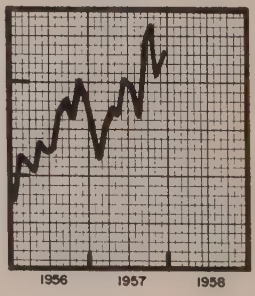
Year	No.	Year	No.
1930	35.7	1945	33.2
1	21.2	6	92.6
2	11.1	7	151.6
3	5.7	8	136.2
4	8.7	9	134.7
5	36.1	1950	83.3
6	80.4	1	68.9
7	114.4	2	31.1
8	109.6	3	13.3
9	88.8	4	4.2
1940	67.8	5	37.9
1	47.5	6	142.3
2	30.6	7	189.7
3	16.3	8	
4	9.6	9	

Relative sunspot numbers by month for 1957 as far as they are available, are as follows:

Month, 1957	Number
Jan.	152
Feb.	117
Mar.	157
Apr.	175
May	165
June	205
July	194
Aug.	163
Sept.	244
Oct.	263
Nov.	207
Dec.	234

E. R. D.





foundation affairs

THE NEW YORK CHAPTER

The now-organizing New York Chapter of the Foundation for the Study of Cycles got off to a vigorous start at its first meeting, held Wednesday evening, January 29, in a private dining room of the Hotel Alden, 225 Central Park West, New York City. Thirty two Founding Members were present.

Chapter Officer Elected

Elected by unanimous vote to head the New York Chapter were the following:

President	Jack A. Dorland
Vice President	David Williams
Secretary	Harry Bogaty
Treasurer	Paul H. Halladin

Garcia-Mata Speaks

The featured speaker of the evening was Dr. Carlos Garcia-Mata, whose subject was 'Cycles in the Stock Market'. Garcia-Mata is one of the original members of the Foundation. His prominence in the cycles field dates back to 1934, when his article 'Solar and Economic Relationships' (co-authored with Dr. Felix Shaffner), appeared in the QUARTERLY JOURNAL OF ECONOMICS (Volume XLIX, November 1934). In that article Garcia-Mata and Shaffner definitized an 11.16-year cycle in sunspot variation and remarked a high degree of co-variation with stock market prices in New York and London.

Garcia-Mata's Background

Dr. Garcia-Mata was born in Buenos Aires, Argentina, in 1905. He is a graduate of the University of Buenos Aires. He attended Harvard University from 1931 to 1933, under a Guggenheim Research Fellowship. From 1933 to 1937, he was Commercial Attache of the Argentine Embassy in Washington, D.C. From 1937 to 1943, he was Manager of the New York office of the Argentine Government Meat Producers' Cooperative. Since 1943, he has had a private business specializing in import, export, and international finance.

Quick Summary of His Talk

During his talk to the New York Chapter, Garcia-Mata reviewed his early work in the correlation of sunspot variations and stock market prices and discussed the 11-plus-year cycle in both of these series in some detail. He then described a cycle about seventeen years long, which he had isolated from both stock market and sunspot data. Following the talk, which was illustrated with charts, Dr. Garcia-Mata answered many questions from the audience.

Important Business Session

Important Chapter business handled at this first session included:

1) *Resolution to found the New York Chapter*
A Resolution, presented by Paul H. Halladin, was unanimously adopted by the Founding Members.

(a) Resolved that a New York Chapter of the Foundation for the Study of Cycles be, and hereby is, founded.
(b) Resolved further that said New York Chapter function only as directed by the Board of Directors of the Foundation for the Study of Cycles.
(c) Resolved further that the New York Chapter may not commit the Foundation for the Study of Cycles financially in any manner.

Dewey Sends Greetings

2) *Official greetings to the Founders' Meeting by E. R. Dewey, Director of the Foundation*

'This is a red letter day for the Foundation for the Study of Cycles. I'll tell you why:

'In 1940, when the creation of the Foundation was being considered, I went for advice to my friend, Alan Gregg, Director of Medical Research of the Rockefeller Foundation, Doctor Gregg gave me many helpful suggestions, but the most important one, as nearly as I can remember his words, was this:

"'You won't really amount to anything until you can get with you a group of people who are seriously and actively interested in what you're trying to do. The group does not need to be large, it could be a dozen people or so, meeting regularly in somebody's house, sitting on the floor perhaps, and discussing cycles. I myself would be glad to be a member of the group, if you can get such a group started. But a group of this sort is indispensable to the success of what you are trying to accomplish.'

'I have been trying unsuccessfully for nearly 18 years to get such a group started. Now, thanks to Jack Dorland and the rest of you, it seems to be under way.

'Until now, this has been a one-horse organization. I have been the horse. I have hopes that all of this is now about to be changed, and that the responsibility for the successful conduct of the Foundation will pass from me to you, and to sister organizations of the same sort, which, under stimulus of your leadership, will be created across the country.'

Anthony and Roessle Honored

3) *Introduction of guests of honor*
Dr. Harold E. Anthony, Chairman and Curator of the Department of Mammals of the American Museum of Natural History, and a Director of the Foundation, and Mrs. Gertrude Roessle, Manager of the Foundation's New York Membership Office, were introduced.

Chapter-Foundation Relationship

4) *Explanation of the relationship of the New York Chapter to the Foundation*
This was covered by a reading by the Chairman to the meeting of comments on this subject received from Director Dewey.

At the present time, I suppose, the Foundation is the dog and the New York Chapter is the tail—an appendage.

'I would like to see the situation reversed. I would like to see the New York Chapter, and other similar chapters in all cities where we have enough members, become the dog, and the Foundation organization itself become the tail.

'More particularly, I would like to see the presidents of the various chapters constitute the Board of Directors of the Foundation. I would like to see them set its policies; I would like to see them assume responsibility for its operation.

'Up to now the Foundation for the Study of Cycles has been little more than a one-man organization. The time has come to change all this.

'In a church the responsibility for church operation rests with the members of the congregation. In a college the responsibility rests with the alumni. They function through officials of their choice called elders, trustees, or what have you. These men assume responsibility for the conduct of affairs and the continuity of operation. If the minister or the college president should die or become incompetent, they obtain another. If he goes off on the wrong track, they set him straight. If he needs help and guidance, they give it to him.

'We need a similar body of men in the Foundation for the Study of Cycles—a body of men elected by the membership, responsible to the membership, who will assure the continuity of the organization, regardless of what might happen to your present Director.

'I see the New York Chapter as a step in this direction. I hope the New York Chapter will blaze the way for similar groups throughout the country.

'I hope the members of the New York Chapter will consider themselves the representatives of the members in the New York area, and that through their officers they will express their will in regard to the conduct of the Foundation. As their officers become seasoned, I hope they, and the officers from the other chapters, will be elected to the Board of Directors of the Foundation and will impose their will upon the Foundation.

'In theory, this is your organization. Make it so in fact.'

Well-Wishers Contribute

5) *Announcement of contributions to the Chapter's treasury.*

Six individual contributions, totaling $45.00, were reported.

Questionnaires Summarized

6) *Summary by President Dorland of the returned Questionnaires*

'The consensus of opinion of the Founding Members was that the New York Chapter should meet for dinner once a month on a mid-week evening, with expense being held to a maximum of $5.00. The favorite subject of the Founding Members: 'Stock Market Cycles'.

Executive Committee Selected

7) *Election of an Executive Committee*

The first duty of this Committee will be to appoint Committee Chairmen (e.g., Program, Reception, By-Laws, Fraternal, Publicity, Bulletin, Technical, etc.). It was unanimously voted that the Executive Committee would consist of the Chapter Officers, plus Dr. Harold E. Anthony, plus such other appointees as the Executive Committee might choose to name.

Chapter Aims Outlined

8) *Discussion of suggested aims and purposes of the Chapter*

A list of suggested aims and purposes was distributed to each Member. President Dorland suggested that these should be considered by each Founding Member before the next meeting, as preparation for a free and open discussion of what the specific aims and purposes of our Chapter should be. The list follows:

(1) To provide a common meeting-place and forum for Foundation members who live in or near New York City.

(2) To arrange for qualified speakers to address Chapter meetings on various aspects of cycles.

(3) To increase interest in Foundation membership by inviting the public to attend lectures featuring outstanding speakers on various aspects of cycles.

(4) To attempt to find some local means of providing a measure of financial support for the Foundation.

(5) To assist in answering the queries of those who have purchased the text of the now-discontinued correspondence course in Cycle Analysis.

(6) To record and distribute to the Chapter membership summary reports of Chapter meetings, so that those who cannot attend all meetings may profit from reading such reports.

(7) To find out the specific interest of each Chapter member and to encourage the formation of small 'round-table workshops' by those having similar cycle interests.

(8) To discuss key articles in *Cycles* magazine and to prepare summaries of such discussions (for possible publication in later issues of *Cycles*).

(9) To encourage the formation of groups within the Chapter for carrying on cooperative research on specific cycle projects.

(10) To encourage individual Chapter Members to serve as Assistant Editors of *Cycles* magazine, so that the Foundation Director may be able to devote himself more completely to research.

Chapter Sets Dues

9) *Determination of Chapter dues*

By unanimous vote the yearly dues for the New York Chapter were set at $5.00. Treasurer Halladin was authorized to proceed with collections.

February Meeting Planned

10) *Plans for next Chapter Meeting*

It was tentatively decided that the next meeting would be a dinner-meeting at 6:00 P.M. on Wednesday evening, February 26, at the Hotel Alden, Central Park West and 82nd Street, New York City.

Won't You Join Us?

All Foundation Members in the New York Metropolitan area are hereby cordially invited to affiliate themselves with the newly formed New York Chapter. Checks covering yearly dues of $5.00 should be made out to 'New York Chapter, Foundation for the Study of Cycles' and mailed to Paul F. Halladin, Treasurer, 24 Oakview Avenue, Maplewood, New Jersey.

geisinger indicator

BACKGROUND

The Modified Geisinger Indicator is a series of numbers which, in the past, have gone up and down ahead of corresponding movements of the Federal Reserve Board Index of Industrial Production. The Modified Geisinger Indicator thus throws some light on the probabilities of the future.

The F. R. B. Index of Industrial Production measures physical production in the U. S. A. It is a weighted average of tons, yards, gallons, and numbers of things produced each month.

The Modified Geisinger Indicator is the sum of two Indicators, the Geisinger Indicator and a First Difference Indicator.

The Geisinger Indicator was invented by Robert Geisinger. It is derived from figures which are published each month in the *Survey of Current Business*. It is charted for you as Curve A on pages 110 and 111.

Curve B on these same two pages charts the First Difference Indicator, which is merely the amount by which the smoothed F. R. B. Index is above or below the value for the preceding month. The smoothing is effected by means of a centered 3-month moving average posted to the second position.

Curve C charts the sum of the values of Curve A and B. This curve is called the Modified Geisinger Indicator. It suggests in a general way what the F. R. B. Index may do some eight months later.

Curve D charts the values of the F. R. B. Index of Industrial Production.

Curve E re-charts Curve C, advancing it by 8 months. This advance is for two reasons (1) so that you can more easily compare the past behavior of the Modified Geisinger Indicator with the behavior of the F. R. B. Index, and (2) so that you can have a better idea of what the F. R. B. Index may do in the future.

FORECAST

Industrial Production continued to decline in January when the Federal Reserve Board's seasonally adjusted index was 133. This was the fifth straight month of decline, and the level was the lowest since February, 1955.

The *rate* of decline was also sharp - the value of the 1st Difference Indicator fell to minus 2.67 for December. This is the lowest value of this Index since the end of World War II and has been exceeded in the past only in 1937 (except for the late 1945 period.)

But, going by past experience, this rate of decline is not likely to continue long. It will be a good sign when this Indicator turns up.

The Geisinger Indicator for October 1957 (June 1958 when projected) is down to -3.4. The following month will range from -1 to -4.2. This is for July 1958 when projected. The projected value for August will lie between +.6 and -4.2. Thus, the first plus value that can develop is for next August. The limits given here define the worst and the best situations that can develop, unless published figures are revised.

A Geisinger Indicator below -2.5 is a danger signal.

The October 1957 value of -2.67 indicates continued caution.

The two Indicators when combined do not give much hope for an upturn in the next few months. When projected 8 months this curve can turn in June, or it can turn in July.

On the basis of this analysis the most optimistic conclusion that can be reached is that the decline in the Index of Industrial Production might level off. A turn up is not indicated in the immediate future.

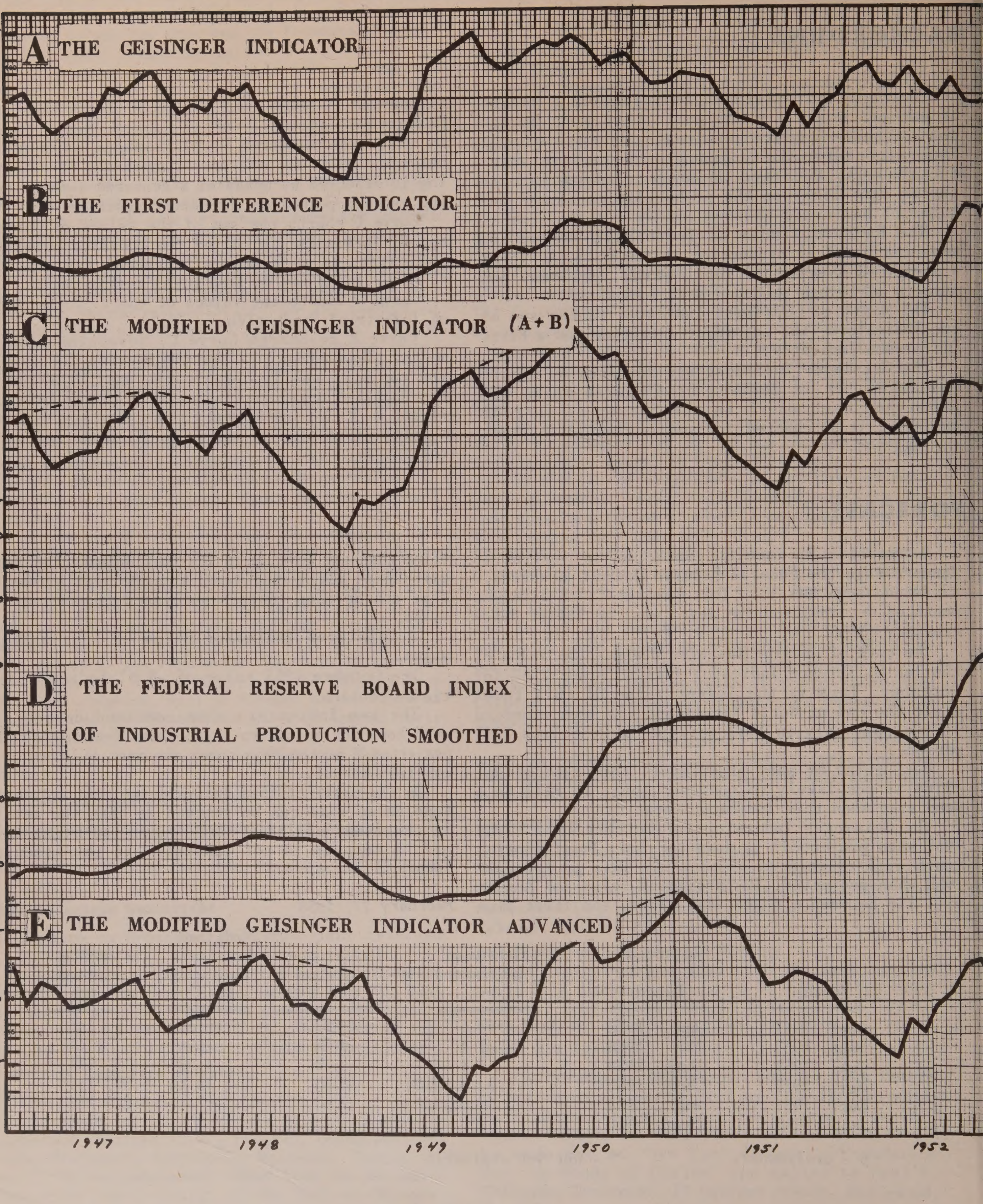
February 27, 1958 *G. Shirk*

Month	Advanced (8 Months Later)	Geisinger Indicator (A)	1st Difference Indicator (B)	Modified Geisinger Indicator (A/B)	F.R.B. Index (D)
Aug. 1957	Apr. 1958	-0.6	/0.33	-0.16	145
Sept. 1957	May 1958	-1.4	-0.50	-1.9	144
Oct. 1957	June 1958	-3.4	-1.33	-4.73	141
Nov. 1957	July 1958	(-1.0 to -4.2)	-2.33	(-3.33 to -6.53)	139
Dec. 1957	Aug. 1958	(/0.6 to -3.6)	-2.67	(-2.07 to -6.27)	136
Jan. 1958	Sept. 1958	*	*	*	133p

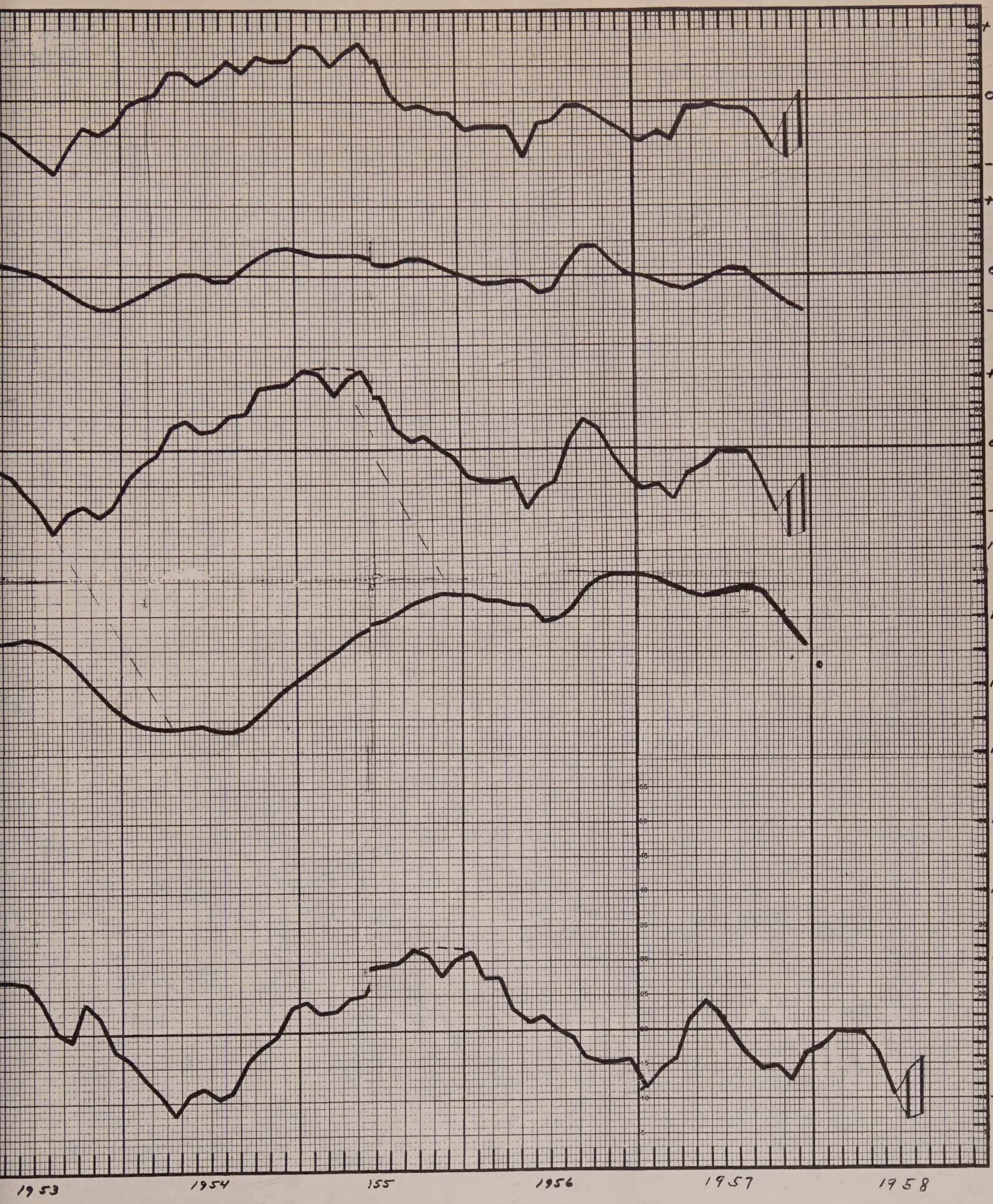
p - preliminary

* - not yet available

THE MODIFIED GEISINGER INDICATOR



OF INDUSTRIAL PRODUCTION



Turn to page 109 for the forecast.

Mr. H. A. Musham
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